

**A thesis submitted in Partial Fulfilment of the Regulations for the degree of
Doctor of Clinical Psychology**

VOLUME I

Research Component

**DELIBERATE FIRESETTING BY ADULTS WITH
DEVELOPMENTAL DISABILITIES**

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OVERVIEW

This thesis is submitted in partial fulfilment to the requirements for the degree of Doctor of Clinical Psychology at the University of Birmingham and comprises two volumes.

Volume I

Volume I of the thesis contains the research component and is presented in the form of three papers related to deliberate firesetting by people with low intellectual functioning. The first paper is a systematic review of the literature in which the existing evidence has been critically examined to determine what is known about adults with low intellectual functioning who deliberately set fires.

The second paper is an empirical research paper which utilised Interpretative Phenomenological Analysis (IPA) to qualitatively explore the experiences of deliberate firesetting by seven adult men with mild intellectual disabilities detained in a secure forensic learning disability service. Both the systematic review and the empirical paper have been prepared according to the requirements for submission to the Journal of Applied Research in Intellectual Disabilities (Appendix 1).

The third paper is a public domain briefing paper which summarises the main findings of the systematic review and empirical paper and has been produced for distribution to wider audiences. A dissemination document has also been produced for the individuals who agreed to participate in the empirical research study.

Volume II

Volume II of the thesis comprises the written clinical component and consists of five Clinical Practice Reports (CPR). These relate to work completed during five training placements.

The volume begins with CPR1 which presents both a cognitive and a psychodynamic formulation of a 41 year-old man referred to a Primary Care Liaison Team (PCLT) due to symptoms associated with Social Phobia.

CPR2 documents a single-case experimental design which was implemented to assess the effectiveness of a cognitive behavioural treatment to reduce body image disturbance in a 41 year-old woman referred to a Community Mental Health Team (CMHT).

CPR3 presents a service evaluation which assessed staff perspectives regarding the implementation of LEAN methodology in a Community Learning Disability Service.

CPR4 presents a case-study of a 14 year-old boy, referred to a Child and Adolescent Mental Health Service (CAMHS) due to difficulties associated with school refusal.

CPR5 consists of the abstract from a case study presentation regarding a 56 year-old woman referred to a Clinical Psychology Service for Rehabilitation due to presenting with emotional problems following a stroke.

DEDICATION

For the most exceptional Mom and Dad a girl could ever wish for,
for my remarkable 7 year old son Brandt, and my ever-so patient Matthew,
and for every one of my wonderful family, both past and present.

Well, what can I say? During completion of this doctorate
we've been through the diagnosis of a brain tumour, a few years
of medical tests and much anticipated results, my driving licence
revoked for three years and then reinstated, five house moves, a
change of school for Brandt, a couple of sickness absences from
the course, and many other challenges that life has thrown at us.

Throughout you have always offered unquestionable
encouragement and support, many, many, many laughs, and an
unwavering belief I could complete this course... despite my
often heartfelt protestations to the contrary!

I couldn't have achieved this without you. I love you.

As Mom always says:

'Once more into the breach, dear friends, once more'

(Let us try again, one more time).

ACKNOWLEDGEMENTS

I would like to express my sincere gratitude to all of the individuals who volunteered to participate in the empirical study contained within Volume one, the clients whose stories are presented within Volume two, and all of the clients, families and carers I have worked with during my clinical placements. In light of all of the personal difficulties you have experienced, I feel enormous admiration that you found the strength to work with services and the courage to share your most intimate life experiences. I feel incredibly privileged to have worked alongside you.

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**WHAT DOES THE EVIDENCE TELL US ABOUT ADULTS WITH LOW
INTELLECTUAL FUNCTIONING WHO DELIBERATELY SET FIRES?
A SYSTEMATIC REVIEW**

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ABSTRACT

Background: It is suggested that people with low intellectual functioning may feature more highly in regard to firesetting than any other group. The purpose of this paper was to systematically examine and integrate existing evidence to determine what is known about deliberate firesetting by adults with low intellectual functioning.

Method: A set of specific inclusion and exclusion criteria were defined using the PICOS model and a comprehensive search strategy of electronic databases was conducted.

Results: Twelve studies met the specified inclusion criteria. Seven studies reported psychosocial characteristics of firesetters and five studies investigated the outcomes of firesetter treatment interventions. Quality assessment indicated the included studies provided low quality research evidence with a high to moderate risk of bias.

Conclusion: The existing evidence provides limited understanding of firesetters with low intellectual functioning and it remains unclear whether epidemiological factors, assessment, and treatment needs differ to firesetters with average or above intelligence. Further high quality research endeavours are required before robust conclusions about deliberate firesetting by adults with low intellectual functioning can be delineated.

Keywords: Firesetting; arson; intellectual disability; learning disability; low intellectual functioning

BACKGROUND

Key Terms

The terms ‘firesetter’ and ‘firesetting’ are used throughout the paper and refer to both acts of ‘deliberate firesetting’ that have not necessarily received criminal charge; and acts of ‘arson’ for which a person has been convicted (*Criminal Damage Act, 1971*). The term ‘low intellectual functioning’ has been selected to refer to people who have an intelligence quotient (IQ) falling below 85. The decision to use the broad umbrella term of ‘low intellectual functioning’ was prompted by a review of the intellectual disability literature which indicated a methodological flaw in existing studies is that participants with both mild intellectual disabilities (IQ<70) and borderline intellectual functioning (IQ<85) are often recruited into the same sample and treated as a homogenous group (Devapriam et al. 2007; Taylor et al. 2004). In view of this, it was felt that focusing purely on research pertaining to participants with intellectual disability (IQ<70) may restrict the number of studies retrieved during a systematic search of the literature; therefore, to capture all pertinent research the inclusive term of ‘low intellectual functioning’ was selected.

Firesetting in context

The Fire & Rescue Statistical Release produced by the Department for Communities and Local Government (2013) indicated from April 2012 to March 2013 the Fire and Rescue Services in England had recorded 68,900 acts of deliberate firesetting. Of these, 19,400 (28%) fires were had taken place in non-derelict buildings, vehicles and outdoor structures, involved casualties or rescues, and were attended by five or more appliances. The remaining

49,500 (72%) were recorded as fires to derelict buildings including fires to grassland areas and refuse.

Psychological Approaches to Understanding Deliberate Firesetting

Despite the suggested prevalence of deliberate firesetting, there remains limited psychological understanding regarding firesetting assessment and intervention approaches for people who set fires. This is particularly evident when compared to the breadth of existing literature for sexual and violent offending (Burton et al. 2012; Gannon & Pina 2010). The limited number of firesetting reviews which have been undertaken have tended to focus on acts of deliberate firesetting by children and adolescents (Heath et al. 1976; Kolko 1985; Palmer et al. 2005); and the etiological features and characteristics of adult firesetters (Barnett & Spitzer 1994; Gannon et al. 2012) and mentally disordered offenders (Geller 2008; Smith & Short 1995; Tyler & Gannon 2012).

To date, the author is unaware of any published review focusing specifically on deliberate firesetting by people with low intellectual functioning. This perspective was further corroborated in a review commissioned by the Department of Health (Fraser & Taylor 2002) regarding forensic learning disability research in which firesetting behaviour was specifically excluded due to the paucity of available literature. Since the review by Fraser and Taylor (2002) a further seven studies have been published.

Deliberate Firesetting and Low Intellectual Functioning

The lack of emphasis on firesetting by people with low intellectual functioning is somewhat surprising given suggestions that this group may feature more highly in regard to

firesetting than any other group (Devapriam et al. 2007; Dickens et al. 2007; Hall et al. 2005); that arsonists with low intellectual functioning are twice as likely to receive sentencing for treatment within secure inpatient services than sexual offenders (Smith et al. 2008); and the reality that criminal conviction for arson results in a lengthy sentence and/or indefinite detention in forensic services if effective treatment, rehabilitation and risk management approaches are not demonstrated (Smith et al. 2008).

The current review

It is considered a systematic review focusing specifically on the characteristics of firesetters with low intellectual functioning and the effectiveness of assessment and treatment approaches will be a worthy addition to the literature, and will prove valuable for professionals and services seeking to understand the extent to which the existing evidence can be relied upon. The aim of this paper is to systematically examine and integrate existing evidence regarding deliberate firesetting by adults with low intellectual functioning.

METHOD

Scoping Review

To ascertain if a review on the topic was warranted a scoping review of ‘firesetting’ and ‘intellectual functioning’ was conducted in August 2011 and updated in March 2013. An electronic search of The Campbell Collaboration of Systematic Reviews 2013; The Database of Abstracts of Reviews and Effects 2013; and the National Institute for Health and Clinical Excellence 2013 was conducted. These searches identified no current review had been published or was in progress. The scoping exercise also included PsycINFO (American Psychological Association 2013) which enabled preliminary assessment of the existing research and identification of concepts and synonyms for full searching of databases.

Criteria for Considering Relevant Studies for Review

To enable identification and selection of relevant studies, a set of specific inclusion and exclusion criteria were defined using the PICOS model (Participant; Interventions; Comparators; Outcomes; Study Design) (Huang et al. 2006). The review criteria are presented in Table 1 below.

Table 1: Inclusion and Exclusion criteria

Inclusion criteria	Exclusion criteria
<p>Include study if it meets the following criteria:</p> <ul style="list-style-type: none">• Includes deliberate firesetters• Includes participants with low intellectual functioning• Includes participants over 18 years of age, unless otherwise stated• Intervention or Non-Intervention Studies• Any type of study design• Published or unpublished study	<p>Omit study if it meets <u>one</u> of the following criteria:</p> <ul style="list-style-type: none">• Firesetting is not the research focus• Firesetters with low intellectual functioning are excluded• Participants are children• The study does not distinguish firesetters with low intellectual functioning from other cohorts in the method, analysis or reporting of research outcomes

Search Methods for Identification of Studies

A comprehensive search strategy was defined by reviewing synonyms found during the scoping review and combining these with concepts identified using the PICOS model. The thesaurus from the United States National Library of Medicine (2013) was also accessed to identify alternative descriptor terms related to ‘Firesetting’ and ‘Intellectual Functioning’. Keywords referring to ‘characteristics’ and ‘interventions’ were not included in the search as it was felt that these were too specific and may have led to some papers being excluded during database searches. Table 2 below depicts the search terms identified for electronic databases.

Table 2 – Search terms identified for electronic database searches

Descriptor Terms and Key Word Synonyms		
Fire Setting:		Intellectual Functioning:
fireset* behavio?r*		intellect*
arson*	AND	intellect* disab*
pyromania*		mental* deficien*
fire set*		idiocy
fireset*		mental* disab*
fire-set*		mental* retard*
		mental* handicap*
		development* disab*
		development* delay*
		cognitive function*
		learn* disab*
		mental* impair*

Electronic Database Searches

The following electronic databases were selected due to their coverage of topics related to psychology and psychiatry; criminology; nursing; and health care interventions. The dates contained in parenthesis reflect the start year as determined by each database and the date the search was completed.

- PsycINFO (1967 to March Week 4, 2013)
- Embase Classic & Embase (1947 to 2013 Week 13)
- Ovid Medline(R) (1946 to March Week 4, 2013)
- Web of Science (All Years to 2013-03-04)
- CINAHL PLUS (All Years to 2013-03-04)

To increase the sensitivity of the search strategy, search terms were truncated to account for variations in spellings (*/?) and Boolean logical operators were used to maximise the studies retrieved. The logical operator 'OR' was used to separate synonyms whilst the logical operator 'AND' was used to combine the descriptor categories.

To reduce publication bias and language bias no limits were applied with regard to published or unpublished status; year of publication; language; or country where the study took place. This was intentionally broad to increase the reliability of the review by maximising the range of potentially relevant studies identified (Centre for Research and Dissemination 2008). Conference abstracts were reviewed to identify the availability of full articles; however these were excluded if full details of the study were unobtainable or provided opinion-based commentaries only.

Additional Searches and Contact with Researchers

To identify additional studies, citation searches were conducted in addition to manually scanning the reference lists of obtained papers. Two study authors and two researchers in the field of adult firesetting were also contacted to identify additional studies.

Study Selection

Study selection comprised three stages. In stage one, duplicated references were removed. In stage two, titles and abstracts of studies were examined against the inclusion and exclusion criteria to determine apparent eligibility. For papers that appeared relevant, the third stage involved retrieving and scrutinising the full text to identify whether it fulfilled the inclusion criteria. To reduce selection bias a consensus regarding papers to be included for review was reached between the author and a second reviewer.

Data Extraction

A systematic data extraction approach was utilised in accordance with recommendations from the Cochrane Handbook of Systematic Reviews of Interventions (Higgins & Green 2011) and was used to extrapolate evidence relating to Study Details; Study Aims and Study Selection; Participant Characteristics; Intervention and Outcomes; and Key Findings. The tool was applied to all selected papers and enabled descriptive comparison of the shared characteristics of the evidence and an audit trail to narrative synthesis (Noyes & Lewin 2011).

Assessment of Risk of Bias and Level of Evidence in Included Studies

Alongside data extraction, each study underwent a standardised critical appraisal process to enable consideration of risk of bias and evidential quality (Deeks et al. 2003).

Risk of Bias

Risk of bias tools are used to determine potential sources of confounding bias within studies. The tool deemed most appropriate for this review was the Methodological Quality Checklist (Downs & Black 1998). The checklist is identified as a measurement of choice in health and social care reviews based on its useability, comprehensive applicability to assessing quality across heterogeneous quantitative studies and for its sound psychometric properties (Deeks et al. 2003).

The checklist provides a profile of sub-scores related to methodological strengths and weaknesses and an overall risk of bias score of a maximum of 28. It consists of 27 items related to five components; 'Quality of Reporting', 'External Validity', 'Internal Validity' (bias), 'Internal Validity' (confounding), and 'Power'. Each item receives a score of 1 (evidence for the item) or a score of 0 (unable to determine evidence or no evidence for the item). Question 5 in the 'Reporting' domain refers to principle confounders and requests scoring out of 2 to reflect confounders reported (2); partially reported (1); or not reported (0). The Methodological Quality Checklist and scoring criteria is presented in Appendix 2.

Once scored, each study was assigned to a colour-coded risk of bias category. This enabled identification and consideration of confounding variables within and across studies and further informed decision-making regarding evidential quality. To reduce subjectivity and

bias in assigning scores, a selection of papers were also rated by a second reviewer. Appendix 3 provides the methodological quality scores and associated colour-coded risk of bias ratings.

Level of Evidence

Quality of evidence ratings are determined based upon study design and refer to the level of confidence which can be applied to study findings and recommendations (Deeks et al. 2003). For this review, guidance provided by the National Institute of Clinical Excellence (NICE, 2005) was used to identify levels of evidence for each study. A copy of the NICE guidance for Assigning Level of Evidence Ratings (NICE 2005) can be found in Appendix 4.

RESULTS

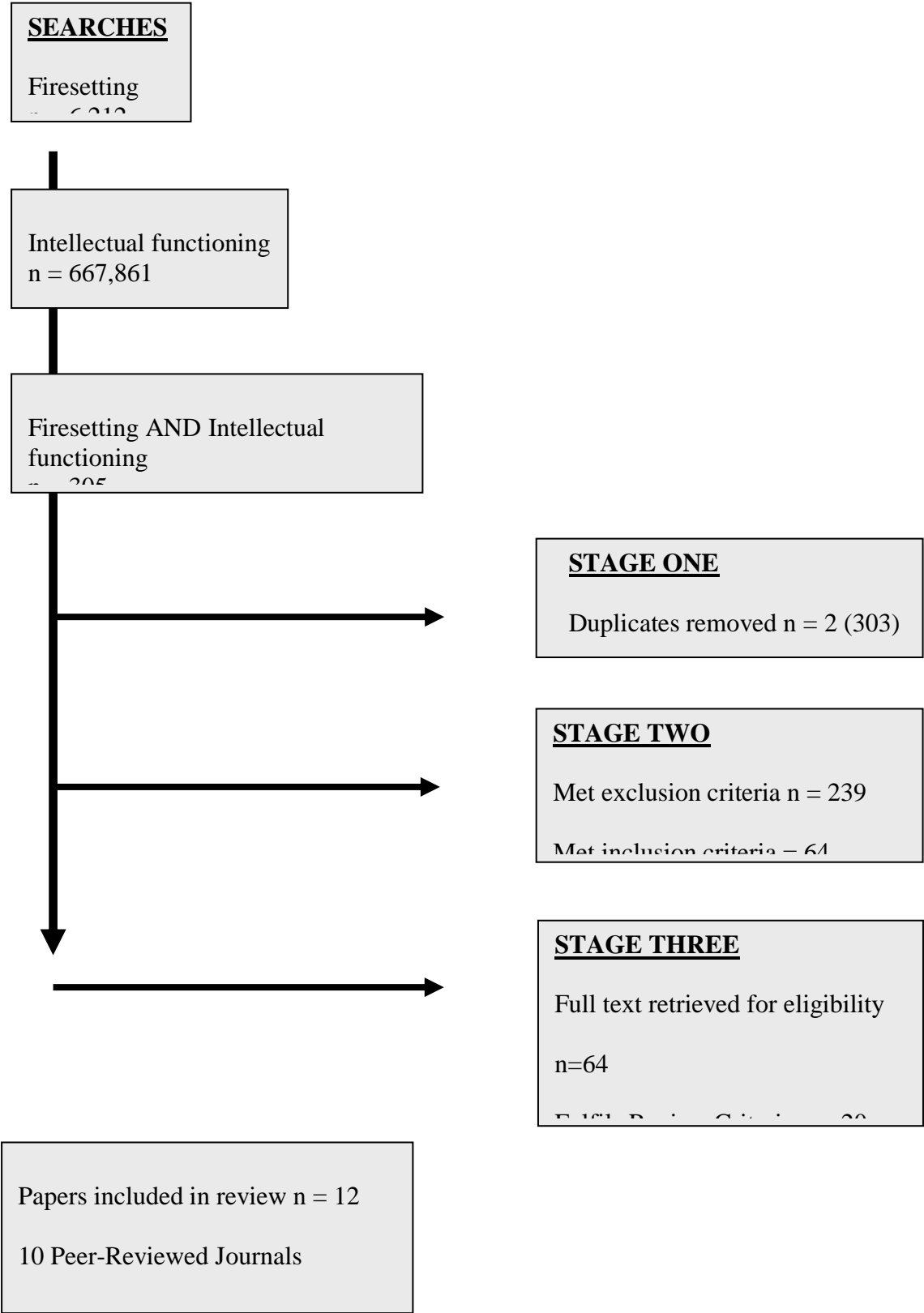
The results are presented in four sections: Search Strategy and Study Selection; Descriptive Synthesis of Included Studies; Quality Assessment; and Narrative Synthesis.

Search Strategy and Study Selection

Using the descriptor terms ‘firesetting’ and ‘intellectual functioning’ the search strategy yielded a total of 305 papers from the five electronic databases. In stage one of the selection process two duplicate papers were removed by PsycINFO. In stage two, the abstracts of the remaining 303 papers were screened against the inclusion criteria; 239 papers were excluded and 64 papers were eligible for further review. In stage three, 64 full text papers were obtained and each was scrutinised against the review criteria. No additional studies were identified through citation searching, manual scanning of reference lists or email consultation with experts.

The selected studies from each database were compiled; 20 papers met inclusion for the study. Following manual removal of duplicate papers, the total number of papers included for review was 12. Appendix 5 provides a table documenting the results for each database search. Appendix 6 depicts the process of removal of duplicate papers. Figure 1 below provides a diagrammatical representation of the overall study selection process.

Figure 1. Diagrammatical representation of cumulative study selection process



Descriptive Synthesis of Studies Included for Review

In total twelve papers met the inclusion criteria. These included three published peer-reviewed retrospective cohort studies (Devapriam et al. 2007; Lindberg et al. 2005; Rasanen et al. 1994) in which the presence of psychosocial characteristics associated with firesetting behaviour by people with low intellectual functioning was investigated. Four studies were published peer-reviewed case control investigations comparing the characteristics of people with low intellectual functioning to various control groups. Two were retrospective studies (Dickens et al. 2007; Kelly et al. 2009) and two were non-randomised studies (Murphy & Clare 1996; Rice & Chaplin 1979). A further four studies were case series investigations reporting the outcomes of therapeutic firesetting interventions designed to reduce recidivistic firesetting. Two were published peer-reviewed papers (Taylor et al 2006; Taylor et al. 2002) and two were published book chapters (Hall et al. 2005; Taylor et al. 2004). One study was a published peer-reviewed paper reporting a single case investigation of assessment and treatment of firesetting behaviour (Clare et al. 1992).

Consideration of Studies for Review - Recurrent Samples

Three papers had the same principle author and reported on the same participant pool; two studies (Taylor et al. 2006; Taylor et al. 2004) reported on ten of fourteen participants from an original study (Taylor et al. 2002). Consideration was given to omitting these papers due to the risk of exaggerating the conclusions; however as the latter studies offer further analysis on gender specific sub-samples and firesetting recidivism it was determined that all three papers would be included. When calculating the sample size for included studies only the sample size (n=14) from Taylor et al. (2002) will be included. This incorporates the participants from the two latter studies and prevents over-inflation of sample sizes. Two

further studies also featured the same lead authors (Clare et al. 1992; Murphy & Clare 1996) however the study samples did not overlap.

Consideration of Studies for Review - Participants aged below 18 years of age

Two papers (Lindberg et al. 2005; Rice & Chaplin 1979) included male firesetters aged 16 years and over in their samples. As ‘participants who are children’ was a specific exclusion criterion, consideration was given to including these studies for review. The mean age of participants in these studies was 32 years and the individuals had been recruited within the context of adult services, therefore it was determined that the studies would be included with attention paid to potential bias during synthesis.

Data Extraction and Characteristics of Included Studies

Data extraction was conducted to extrapolate key characteristics for each study. The twelve studies are summarised and presented by study design in table 3 (retrospective cohort), table 4 (case control), table 5 (case series) and table 6 (single case). A full description of key characteristics for each study can be found in Appendix 7.

Table 3: Key characteristics of retrospective cohort studies included in the review

Study Details & Aim	Sample	Outcome / Intervention	Key Findings - specific to firesetters with low intellectual functioning
Devapriam et al. 2007 (UK) To examine the characteristics of arson offenders	Control group: • n=1085 with an offence history Index group: • n=15 with an offence of arson	Case notes review of: • Demographics & ID • Psychiatric diagnosis • Forensic history • Reasons for arson • Personal profile	<ul style="list-style-type: none"> • Mean age at first FS: 7 males - 22 yrs; 8 females - 30 yrs; ID: n-2 moderate ID; n-12 mild ID; n-1 borderline functioning • 60% had psychiatric diagnosis. 53% committed Arson more than once; 73% other offending. • Personal profile; childhood abuse; firesetting in the family & relationship difficulties
Lindberg et al. 2005 (Finland) To characterise a sample of male arson recidivists	Control group: • n=385 male arsonists Index group: • n= 16 male arson recidivists (at least two separate arson acts)	Case notes review of: • Psychosis • Personality Disorder • Alcoholism • Organic Brain Disorder • Mood Disorder • Criminal History	<ul style="list-style-type: none"> • No participants diagnosed as psychotic • Frequency data specific to arson ID recidivists not specified for Personality Disorder, Organic Brain Disorder or Mood Disorder • 93.75% had only arson in their criminal history
Rasanen et al. 1994 (Finland) To compare the intelligence of arsonists with homicide offenders	Control group: • n=56 homicide offenders • n=37 arsonists (IQ>86) Index group: • n=35 arsonists (IQ<85)	Case notes review of: • Gender • Intellectual Functioning • Arson behaviour	<ul style="list-style-type: none"> • 8 arsonists – mild intellectual disabilities / 27 arsonists – borderline functioning • No significant differences between index and control groups on age, gender, IQ • No significant difference between type and target of arson

Table 4: Key characteristics of case control studies included in the review

Study Details & Aim	Sample	Outcome / Intervention	Key Findings - specific to firesetters with low intellectual functioning
Dickens et al. 2007 (UK) To explore differences between arsonists with IQ<85 and arsonists with IQ>86	Control group: • n=114 arsonists (IQ>86) Index group: n=88 arsonists (IQ<85)	Case notes review of: • Family and childhood • Adult adjustment • Firesetting history • Motives for firesetting	• 20/40 females; 68/162 males; mean age 26 • Evidence of childhood disturbance • Introverted & adult relationship difficulties • History of repeat purposeful firesetting
Kelly et al. 2009 (UK) To examine the relationship between three historical risk factors for arson	Control group: • n=10 non-arsonists Index group: • n=10 arsonists	Case notes review of: • Perceived inability to effect social change • Childhood fire experience • Family problems	• Positive association between firesetting and perceived inability to effect social change and childhood experiences of fire • No association between firesetting and family problems
Murphy & Clare 1996 (UK) To compare outcomes of two assessments of fire related attitudes and interest	Control group: • n=10 non-offenders Index group: • n=10 arsonists	Assessments: • Firesetting Assessment Schedule (FAS) • Fire Interest Rating Scale (FIRS)	• FAS – Index group only. Prior to firesetting anger, not being listened, sadness, boredom, anxiety, Post firesetting: feeling listened to, reduced anger, anxiety, boredom • FIRS - index & control group. Significant difference on one only situation
Rice & Chaplin 1979 (USA) To evaluate social skills training for male arsonists	Control group: • n=5 arsonists (IQ>86) Index group: • n=5 arsonists (IQ<85)	• Intervention: 8 sessions social skills training • Outcomes: observations of role plays	• Social skills training more effective than general psychotherapy group for improving social skills of hospitalised male arsonists • One year follow-up no acts of firesetting

Table 5 Key characteristics of case series studies included in the review

Study Details & Aim	Sample	Outcome / Intervention	Key Findings - specific to firesetters with low intellectual functioning
Hall et al. 2005 (UK) To report responses to a firesetters group intervention	<ul style="list-style-type: none"> • n=6 male firesetters • Age range: 19 to 57 • Cognitive ability: mild and borderline 	<ul style="list-style-type: none"> • Intervention: 16 group CBT group sessions • Outcomes: fire interest & attitudes; self esteem 	<ul style="list-style-type: none"> • Post-group 3 rated selves as medium risk; 3 low risk; and 1 as very low risk • Outcome Measures: Inconsistent reporting on outcomes for fire interest, attitudes, self-esteem
Taylor et al. 2006 (UK) To report responses to a firesetters group intervention (sub-sample Taylor et al. 2002)	<ul style="list-style-type: none"> • n=6 female arsonists • Age range: 20-40 • Cognitive ability: mild and borderline 	<ul style="list-style-type: none"> • Intervention: 40 group sessions CBT sessions • Outcomes: fire interest & attitudes, anger, self-esteem, depression; staff-rated attainment 	<ul style="list-style-type: none"> • Group means showed non-significant improvements on all self-rated outcomes. • Less than 50% satisfactory for responsibility and victim issues on staff-rated attainment • Two year follow-up no acts of firesetting
Taylor et al. 2002 (UK) To report combined outcomes of a firesetters group intervention	<ul style="list-style-type: none"> • n=14 firesetters • Age range: 20-48 • Cognitive ability: mild and borderline 	<ul style="list-style-type: none"> • Intervention: 40 group sessions CBT sessions • Outcomes: fire interest & attitudes, self-esteem, anger, depression; staff-rated attainment 	<ul style="list-style-type: none"> • Significant improvements on fire interest & attitudes, anger & self-esteem • There was no significant improvement found for depression 50% improved on staff rated attainment
Taylor et al. 2004 (UK) To report responses to a firesetters group intervention (sub-sample Taylor et al. 2002)	<ul style="list-style-type: none"> • n= 4 male arsonists • Age range: 22-44 • Cognitive ability: mild and borderline 	<ul style="list-style-type: none"> • Intervention: 31 group sessions CBT sessions • Outcome: fire interest & attitude, self-esteem, anger, staff-rated attainment 	<ul style="list-style-type: none"> • No change in fire attitude & interest for 3 participants; all participants showed improved anger disposition; 2 participants showed an increase in self-esteem; 3 participants reached satisfactory on staff-rated attainment

Table 6 Key characteristics of single case study included in the review

Study Details & Aim	Sample	Outcome / Intervention	Key Findings - specific to firesetters with low intellectual functioning
<p>Clare et al. 1992 (UK)</p> <p>To report a functional analysis and cognitive-behavioural treatment for one participant (PR)</p>	<ul style="list-style-type: none"> • n=1 male arsonist • Age: 23 • Cognitive ability: mild intellectual disability 	<ul style="list-style-type: none"> • Intervention: Programme of social skills; coping strategies; facial surgery; graded exposure to matches; assisted covert sensitisation 	<ul style="list-style-type: none"> • Facial surgery successful in changing perception of familiar people but not independent raters; twice PR was tempted to set fires he successfully used 'assisted' covert sensitisation tape; no anxiety holding matches • No hoax calls or firesetting at 30 months

Quality Assessment

Risk of Bias

Risk of bias for each study was rated using the Methodological Quality Checklist (Downs & Black 1998). None of the twelve studies received a low risk of bias rating. Nine studies in the sample received moderate risk of bias ratings; the case series study by Taylor et al. (2006) examined the outcomes of a firesetting intervention and received the best rating of 17/28.

Three studies in the sample received high risk of bias ratings; the single case study by Clare et al. (1992) and the case series study by Hall et al. (2005) reported outcomes of firesetting interventions and received the lowest ratings of 7/28. The retrospective cohort study by Devapriam et al. (2005) examined the characteristics of firesetters and received a rating of 8/28. The high bias status for these studies suggests that cautious consideration should be given to the credibility of findings and conclusions drawn during synthesis.

Table 7 below shows the Quality Checklist ratings for each study as grouped by study design. Within the table, ratings are depicted using a colour-coded system (Appendix 3):

- Ratings 0-9 are depicted in red - high risk of bias
- Ratings 10-18 are depicted in orange - intermediate methodological quality
- Ratings 19-28 are depicted in green - strong methodological quality

The intervention studies are highlighted in yellow to differentiate from non-intervention studies and the sub-scores for each domain are presented in parenthesis. Visual

representation of the risk of bias ratings was deemed appropriate for presenting the findings as the colour-coded system facilitated quick identification of individual ratings and enabled comparison across studies.

Table 7 Methodological Quality Checklist ratings for each study (grouped by study design)

Study Design	Single Case	Case Series				Non- Randomised Case Control	Retrospective Case Control			Retrospective Cohort		
Study Authors	Clare et al., 1992	Hall et al 2005	Taylor et al 2002	Taylor et al 2004	Taylor et al 2006	Rice & Chaplin 1979	Murphy & Clare 1996	Dickens et al 2008	Kelly et al 2009	Devapriam et al 2007	Lindberg et al 2005	Rasanen et al 1994
Reporting												
1. Clear description of hypothesis / aims	1	1	1	1	1	1	1	1	1	1	1	0
2. Main outcomes to be measured reported	1	1	1	1	1	1	1	1	1	1	1	0
3. Characteristics of sample clearly reported	0	0	1	1	1	0	1	1	1	0	1	1
4. Intervention clearly reported	0	1	1	1	1	0	0	0	0	0	0	0
5. Principle confounders reported *yes-2/partial-1/no-0	1	1	1	1	1	1	1	1	1	1	1	1
6. Findings clearly reported	0	0	1	1	1	1	1	1	1	1	1	1
7. Estimates of random variability provided	0	0	1	0	1	1	1	1	1	0	1	1
8. Adverse events as consequence reported	0	0	0	0	0	0	0	0	0	0	0	0
9. Details of participants lost to follow-up reported	0	0	0	0	0	0	1	0	1	0	0	1
10. Actual probability values reported e.g. 0.035	1 (4)	0 (4)	0 (7)	0 (6)	1 (8)	1 (6)	1 (8)	0 (6)	0 (7)	0 (4)	1 (7)	0 (5)
External Validity												
11. Sample representative of population	utd	utd	utd	0	1	0	1	1	1	Utd	1	1
12. Participation representative of population	utd	utd	utd	utd	1	1	1	1	1	Utd	1	1
13. Ecological validity of intervention	Utd (0)	Utd (0)	1 (1)	1 (1)	1 (3)	1 (2)	1 (3)	1 (3)	1 (3)	Utd (0)	1 (3)	0 (2)
Internal Validity - Bias												
14. Attempt to blind subjects to intervention received	1	utd	0	1	1	1	0	0	0	0	0	0
15. Attempt to blind those measuring main outcomes	utd	utd	utd	utd	utd	1	Utd	utd	0	Utd	utd	0
16. No unplanned statistical analysis	1	0	1	1	1	1	1	1	1	1	1	0
17. Adjustment for lengths of follow-up	1	1	utd	0	utd	utd	1	0	utd	0	0	1
18. Appropriateness of statistical analysis	utd	0	1	0	1	1	1	1	1	1	1	utd
19. Compliance with intervention reliable	0	1	1	1	1	0	1	utd	0	0	0	0
20. Outcome measures accurate (reliable and valid)	Utd (3)	0 (2)	0 (3)	0 (3)	0 (4)	Utd (4)	Utd (4)	Utd (2)	Utd (2)	Utd (2)	0 (2)	Utd (1)
Internal Validity – Confounding bias												
21. Participants recruited from same population	0	1	1	1	1	1	0	1	0	1	1	1
22. Participants recruited from same time period	utd	utd	utd	utd	utd	utd	Utd	0	utd	0	0	1
23. Participants randomised to intervention groups	0	utd	0	utd	0	0	0	0	0	0	0	0
24. Randomisation concealed to participants	0	utd	0	utd	0	0	0	0	0	0	0	0
25. Adjustment for confounding variables	utd	0	0	0	utd	1	0	0	utd	1	1	1
26. Losses of patients to follow-up accounted for	Utd (0)	Utd (1)	Utd (1)	0 (1)	1 (2)	0 (2)	1 (1)	Utd (1)	1 (1)	Utd (2)	0 (2)	0 (3)
Power												
27. Sufficient power to detect clinically significant effect	0	0	utd	0	0	0	0	utd	0	0	0	0
RISK OF BIAS SCORE OUT OF 28	7	7	12	11	17	14	16	12	13	8	14	11

Level of Evidence

The level of evidential quality was graded using the NICE (2005) guidelines (Appendix 4). This identified that seven studies are graded as 2(-); case control and cohort studies and five studies are graded 3(-); case series and case reports. Appendix 8 provides a table depicting the risk of bias rating and corresponding evidential quality grading for each study.

Summary of Risk of Bias and Level of Evidence

The combined ratings indicate all included studies provide low quality research evidence with high to moderate risk of bias. This suggests the evidence-base for firesetting by adults with low intellectual functioning is currently of poor quality. Therefore, the weighting of conclusions during narrative synthesis should be interpreted with extreme caution based upon the risk of confounding variables and validity of the results.

Narrative Synthesis

The synthesis provides an overview of all reviewed studies pertaining to firesetting by adults with low intellectual functioning. The research outcomes are presented in relation to four central themes which emerged during the review of the literature:

1. The main features of research studies included for review
2. Characteristics of firesetters with low intellectual functioning
3. Offence profiles of firesetters with low intellectual functioning
4. Fire-specific assessment and treatment approaches

As some studies provide outcomes for several areas of interest; each study will only be described in full where it is most appropriate to the research question. Throughout, the reader's attention will be drawn to a discussion of pertinent methodological considerations; however, as evidenced by the quality assessment ratings, all conclusions should be treated cautiously.

1. What are the main features of research studies pertaining to firesetting by adults with low intellectual functioning?

The main features of the reviewed studies have been reported to provide a context for considering the generalisability of the existing evidence base.

Country of Origin

Nine studies were conducted in the UK (Clare et al. 1992; Devapriam et al. 2007; Dickens et al. 2007; Hall et al. 2005; Kelly et al. 2009; Murphy & Clare 1996; Taylor et al. 2006; Taylor et al. 2002; Taylor et al. 2004); two studies in Finland (Lindberg et al. 2005; Rasanen et al. 1994); and one study in the United States of America (Rice & Chaplin 1979). As the preponderance of published research has taken place in the UK, the transferability and generalisability of study findings to firesetters in other countries may be limited based on diverse cultural values, legal processes and classification systems.

Study Settings

The review indicated participants were recruited from forensic mental health services or secure settings. These comprised seven National Health Service (NHS) low secure and medium secure forensic intellectual disability inpatient settings (UK), two regional NHS community and inpatient services for people with intellectual disabilities (UK), two University Hospital Departments for Forensic Psychiatry (Finland) and one Maximum Security Psychiatric Hospital (USA). These settings suggest that findings may relate more directly to persistent low functioning firesetters and caution is recommended in generalising conclusions to firesetters accessing mainstream community services.

Study Samples

The total sample size of the twelve studies was 1902 participants. This comprised 1702 participants assigned to control groups and 200 firesetters with low intellectual functioning.

The control groups consisted of: 541 firesetters with borderline and above intellectual functioning (Dickens, Sugarman, Ahmad, Edgar, Hofberg, Tewari, 2007; Lindberg, Holi, Tani & Virkkunen, 2005; Rasanen, Hirvenoja, Hakko, & Vaisanen, 1994; Rice & Chaplin, 1979); 1085 non-firesetting offenders with average or above intellectual functioning (Devapriam et al., 2007); 10 non-firesetting offenders with mild intellectual disabilities (Kelly, Goodwill, Keene, & Thrift, 2009); and 10 participants were non-offenders with low intellectual functioning (Murphy & Clare, 1996).

The smallest sample size of the studies was a case study which recruited one participant with low intellectual functioning from a NHS forensic inpatient mental health setting (Murphy & Clare 1996). The largest sample size of 88 participants with low intellectual functioning was recruited from a 20-year retrospective cohort study of people who had accessed a forensic psychiatry hospital department in Finland (Lindberg et al. 2005). The sample sizes indicate study findings are based on small cohorts of people. This should be borne in mind when considering the research findings and the conclusions which can be drawn about firesetters with low intellectual functioning *per se*.

2. What are the characteristics of adult firesetters with low intellectual functioning?

All of the included studies provided some level of evidence regarding the characteristics of adult firesetters with low intellectual functioning.

Demographic Characteristics

Gender

In total 200 participants with low intellectual functioning were recruited into the studies. All but one study (Rasanen et al. 1994) provided details regarding the distribution of gender across their participants. The available information indicated 126 participants were male and 37 were female. As the reviewed studies relate predominantly to male firesetters, outcomes which pertain specifically to females will be highlighted in the synthesis where applicable.

Age

All but one study (Kelly et al. 2009) provided details regarding the age of their participants. The remaining eleven studies indicated the age range for female participants was 20-48 years of age (Rasanen et al. 1994; Taylor et al. 2006; Taylor et al. 2002) and the age range for male participants was 16-57 years of age (Clare et al. 1992; Devapriam et al. 2007; Dickens et al. 2007; Hall et al. 2005; Lindberg et al. 2005; Murphy & Clare 1996; Taylor et al. 2006; Taylor et al. 2004; Rasanen et al. 1994; Rice & Chaplin 1979).

Intellectual Functioning

Measurement

Five studies provided specific information regarding the standardised psychometric assessment used to measure the intellectual functioning of their participant pool. Four studies from the UK (Clare et al. 1992; Murphy et al. 1996; Taylor et al. 2002; Taylor et al. 2006) used the Wechsler Adult Intelligence Scale-Revised (WAIS-R, Wechsler 1981). One study from Finland (Rasanen et al. 1994) used the Finnish Handbook for scoring the Wechsler Adult Intelligence Scale (Fieandt and Kalimo 1975; WAIS, Wechsler 1965).

Two retrospective cohort studies (Devapriam et al. 2007; Lindberg et al. 2005) determined levels of intellectual functioning by reviewing participants' case notes. Unfortunately, the studies did not detail how intellectual functioning was defined; whether decisions were based on clinical judgement at the time the person was involved in the service; or whether researchers ascribed intellectual functioning retrospectively. This raises the issue of measurement bias and questions the reliability and validity of classifications used to determine intellectual functioning.

The remaining five studies (Dickens et al. 2007; Hall et al. 2005; Kelly et al. 2009; Rice and Chaplin. 1979; Taylor et al. 2004) failed to report how functioning was assessed and did not provide definitions of how classifications of functioning were differentiated. None of the included studies reported whether considerations of adaptive and social functioning had contributed to assessed levels of intellectual functioning.

Reporting

Eight studies provided adequate information to identify the spread of intellectual functioning across the participant pool. The findings indicated 2 participants had moderate intellectual disabilities (Devapriam et al. 2007); 59 participants had mild intellectual disabilities (Clare et al. 1992; Devapriam et al. 2007; Kelly et al. 2009; Lindberg et al. 2005; Murphy & Clare 1996; Rasanen et al. 1994; Taylor et al. 2006; Taylor et al. 2004); and 36 participants had borderline intellectual functioning, range FSIQ 68-85 (Devapriam et al., 2007; Murphy & Clare 1996; Rasanen et al. 1994; Taylor et al. 2006). The remaining four studies reported intellectual functioning in generic terms such as 'classified as mild and borderline intellectual disabilities' (Hall et al. 2005); 'low functioning group IQ<85' (Dickens et al. 2007); 'mild to borderline intellectual disabilities' (Rice & Chaplin 1979); and 'mild to borderline intellectual disabilities', range 64-84' (Taylor et al. 2002).

The reporting of intellectual functioning in the sample of studies identifies two pertinent methodological limitations. Firstly, it is apparent that participants with borderline functioning were often grouped in a sample with people with mild intellectual disabilities. This may undermine the validity and reliability of study findings as participants are misleadingly labelled as a homogenous group despite several diagnostic systems indicating otherwise. Secondly, the studies failed to provide sub-analysis of firesetting variables in relation to levels of intellectual functioning. This further prevents interpretation of whether a relationship exists between different levels of intellectual functioning and firesetting behaviour.

Psychosocial Characteristics

Childhood Factors

Five studies referred to the presence of problematic childhood behaviours and traumatic experiences in the backgrounds of firesetters with low intellectual functioning. Dickens et al. (2007) used a retrospective case control study to explore the presence of childhood temperamental disturbance in 68 male and 20 female firesetters with low intellectual functioning and compared these with 126 male and 20 female firesetters with average or above intellectual functioning. The findings indicated the low intellectual functioning group had significantly more evidence of childhood behavioural problems including conduct disorder, enuresis, fighting and damage to property ($p>0.05$).

Three further studies (Devapriam et al. 2007; Taylor et al. 2006; Taylor et al. 2004) observed the presence of childhood difficulties in the backgrounds of male and female firesetters with low intellectual functioning. These included; psychiatric disorders, intrafamilial and extrafamilial physical and sexual abuse, deprivation, neglect, poor parental control and periods of time spent in care. A limitation is that none of the studies provided further sub-analysis or commentary regarding the relationship between gender differences and early childhood factors.

Another study relating to childhood factors and firesetting was conducted by Kelly et al. (2009). This study compared twenty men with mild learning disabilities living in two inpatient forensic services; ten participants had an index offence of pathological arson. The study examined the prevalence of two childhood historical risk factors for pathological arson: 'early childhood experiences of fire' comprising 'fire play', 'personal experience of fire',

‘symbolic significance of fire’ and ‘vicarious experience of fire’ and ‘family problems’ comprising ‘poor conflict resolution in the family’, ‘family excessively punitive or rigid’, ‘over-protective mother’, ‘father a heavy drinker’, ‘absent mother or father’ and ‘physical abuse’. The findings revealed a significant association between an index offence of pathological arson and ‘childhood experiences of fire’. There was no significant association found for ‘family problems’. The non-significant finding for ‘family problems’ provides conflicting evidence when compared to the findings of the previous studies.

There are a number of methodological limitations which may have contributed to the reported difference in this study. Firstly, the criteria for the presence of ‘family problems’ are very specific and therefore family problems may have been present for participants but not captured within the stringent diagnostic ratings. Secondly, the authors identified the small sample size may have limited the predictive ability of the risk factors. Thirdly, it is possible that ‘family problems’ was not characteristic of the ten firesetters recruited.

The strength of this study is the incorporation of a control group of non-firesetters with mild intellectual disabilities; comparison to a generic offending group increases the confidence that significant findings are reflective of firesetters rather than offenders with an intellectual disability *per se*. Given the findings of these studies, the field would benefit from further research focusing on the relationship between the interplay of childhood factors and firesetting behaviour. Exploration of the relationship between attachment styles and firesetting may also shed further light for developing treatment approaches which focus on creating a secure base from which firesetters with low intellectual functioning can develop

awareness of the relational difficulties which may have pervaded childhood and preceded adult acts of firesetting.

Interpersonal Difficulties

Two retrospective studies investigated the presence of relationship difficulties in the histories of men and women with low intellectual functioning (Devapriam et al. 2007; Dickens et al. 2007). Their findings indicated that firesetters with low intellectual functioning had a significantly higher level of relationship difficulties when compared to firesetters with average or above intelligence ($p>0.05$). Dickens et al. (2007) also found people with low intellectual functioning were significantly more likely to be introverted ($p>0.05$).

There are a number of limitations associated with these findings. In particular, the variables to determine ‘history of relationship difficulties’ were not defined in either study and hinders replication of the methods used. As the studies did not provide a breakdown of relationship difficulties in relation to gender or sub-levels of low intellectual functioning, it is therefore not possible to distinguish whether difficulties were different for people with intellectual disabilities, borderline functioning or low intellectual functioning more generally. Finally, the studies did not indicate whether relationship difficulties were antecedents to firesetting acts and therefore it is difficult to ascertain whether any association exists between a history of relationship difficulties and deliberate firesetting.

Psychiatric Diagnosis

Eight studies referred to the presence of psychiatric diagnoses in the backgrounds of firesetters with low intellectual functioning (Clare et al. 1992; Devapriam et al. 2007; Dickens

et al. 2007; Lindberg et al. 2005; Murphy & Clare 1996; Rice & Chaplin 1979; Taylor et al. 2002; Taylor et al. 2004). Diagnoses included Pervasive Developmental Disorder, Schizophrenia, Recurrent Depressive Disorder, Affective Disorder, Psychosis, Schizoaffective Disorder, Psychotic Depression, Alcohol Dependency and 'Psychiatric Disorder'. For three participants, firesetting was suggested to be associated with instructions from auditory command hallucinations (Devapriam et al. 2007; Murphy and Clare 1996; Taylor et al. 2006). In relation to the prevalence of psychiatric diagnoses for people with low intellectual functioning, Dickens et al. (2007) found no significant difference between the frequency of diagnosis for 88 firesetters with IQ below 85 and 114 firesetters with IQ above 85. Unfortunately, this study did not provide information regarding types of diagnosis or psychiatric symptoms.

Whilst these studies indicate psychiatric diagnoses are present within the backgrounds of some firesetters with low intellectual functioning, whether an association exists between diagnosis and the act of firesetting still remains unclear. In particular, it is difficult to ascertain whether psychiatric disorders influence firesetting behaviours directly; whether firesetting indirectly enables a person to express complex emotions associated with their psychiatric experience; or whether for some individuals there is no relationship between firesetting and diagnosis.

Personality Disorder

Four studies identified diagnosis of personality disorders in their samples. Nine participants had a diagnosis of Borderline Personality Disorder (BPD) (Devapriam et al. 2007); three participants had diagnosis of Antisocial Personality Disorder (APD) (Devapriam

et al. 2007); three participants had diagnosis of Psychopathic Personality Disorder (Claire et al. 1992; Taylor et al. 2006; Taylor et al. 2004) and one participant had a diagnosis of 'Personality Disorder' (Rice & Chaplin 1979). This suggests that BPD was most prevalent amongst firesetters in this sample of studies, however as findings are based on very small sample sizes generalisability of this conclusion is inadvisable. Future studies exploring the relationship between personality disorders and firesetting may further enhance therapeutic interventions by helping individuals understand the possible influence of personality traits upon firesetting and coping mechanisms to mediate risks associated with these.

3. What are the offence profiles of adult firesetters with low intellectual functioning?

Offending history

The offence profiles of firesetters with low intellectual functioning were reported by one retrospective case control study (Dickens et al. 2007) and one retrospective cohort study (Lindberg et al. 2005).

Dickens et al. (2007) compared 88 firesetters with low intellectual functioning with 126 firesetters with an IQ above 85 to determine whether there were any differences for the variable of previous offending behaviour. The results indicated that whilst previous offending was common for both groups, there were no significant differences between the groups for the mean age of first criminal conviction (22 years); type or prevalence of previous offending behaviours including theft, personal violence and vehicle offences; or the length of time detained in prison environments.

In contrast to these findings, Lindberg et al. (2005) explored the prevalence of 'pure arsonists' (those with only arson offence histories) and 'non-pure arsonists' (those with other offending histories) in the backgrounds of 16 male recidivistic arsonists with mild intellectual disabilities and found 94% of their sample were classified as 'pure arsonists'. This indicated that the majority of their sample had only committed arson offences and did not engage in other offending behaviours.

The opposing outcomes of these studies may relate to the recruitment of participants with low intellectual functioning. Dickens et al. (2007) recruited male and female firesetters

with predominantly borderline functioning; whilst Lindberg et al. (2005) recruited only male participants with mild intellectual disabilities. Whilst extremely tentative, the results lead to hypotheses about whether firesetters with low intellectual functioning may comprise two groups; people with borderline functioning who tend to engage in diverse forensic behaviours and people with intellectual disabilities who tend to engage in firesetting only.

Onset and frequency of fire-related behaviours

Devapriam et al. (2007) found over half of their mixed-gender sample of 15 firesetters with low intellectual functioning had set fires more than once. The mean age of the first act was 22 years in men and 30 years in women. Dickens et al., (2007) observed their sample of 88 firesetters with low intellectual functioning had frequently set more fires and had made more frequent hoax calls in comparison to their control group of 128 firesetters with average or above intellectual functioning; however, this finding did not reach statistical significance.

Context of firesetting acts

Firesetting was most likely to occur in community specialist housing, day centres, NHS hospitals, hostels, in the person's home or on abandoned wasteland (Devapriam. 2007; Dickens et al. 2007; Hall et al. 2005; Murphy & Clare 1996; Taylor et al. 2006; Taylor et al. 2004). In situations where people had set fire to their residence i.e. at NHS hospitals, the person had almost always alerted someone to prevent serious harm to others (Murphy & Clare 1996; Taylor et al. 2006; Taylor et al. 2004). These findings suggest that whilst the review studies relate to the most dangerous and persistent firesetters, acts tend to occur in places of personal significance and not within the situational context of causing intentional injury. This

is not to exclude the notion that there may be a sub-group of people with low intellectual functioning who do set fires for this reason.

Antecedents to firesetting

Five studies attempted to identify antecedents to firesetting. In a retrospective cohort study, Devapriam et al. (2007) concluded motivations in their mixed-gender cohort of 15 firesetters with low intellectual functioning was commonly 'revenge', 'suggestibility', 'excited by fire' and 'mental illness' respectively. The authors tabulated identified motivations with axis 1 diagnoses to determine whether relationships emerged. Findings indicated 'revenge' was most commonly associated with recurrent depressive disorder and schizoaffective disorder; 'suggestibility' with recurrent depressive disorder and schizophrenia; 'excited by fire' with schizoaffective disorder and bipolar affective disorder; and 'mental illness' associated with schizophrenia. Whilst tabulation with mental health difficulties is interesting, associating these with a single motivation provides a simplistic and limited approach to understanding the interplay between firesetting behaviours and individual dynamic risk factors.

Kelly et al. (2009) used a retrospective case control design to identify the presence of 'perceived inability to effect social change' ('external locus of control', 'low confidence in dealing with conflict' and/or 'avoidance of confrontation') as a risk factor for pathological arson. The sample comprised ten men with mild intellectual disabilities with a history of arson; and ten men with mild intellectual disabilities without a history of arson. All of the participants were detained in secure forensic settings. The findings indicated 'perceived inability to effect social change' reached statistical significance as a historical risk factor for

pathological arsonists in men with mild intellectual disabilities and suggests this group may use firesetting as a means to change aspects of a situation or their environment.

In the above studies, clinicians' retrospectively delineated reasons for firesetting based upon a review of case notes and none reported whether the validity and test-retest reliability of the ratings were measured. This indicates methodological limitations inherent in retrospective clinical judgements are probable.

Three studies used the Fire Assessment Schedule (FAS: Murphy, 1990) to assess participant's thoughts and feelings prior to and following firesetting acts (Clare et al. 1992; Hall et al. 2005; Murphy & Clare 1996). The studies reported the predominant perception prior to firesetting was a belief that others were not paying attention or listening to their needs, alongside prior feelings of anger, sadness/depression, anxiety, boredom/need for stimulation, and auditory hallucinations. Following firesetting, participants indicated they felt reduced feelings of anger, increased social attention, reduced feelings of boredom and auditory hallucinations. Some participants indicated reduced levels of anxiety whilst some participants identified increased anxiety and depression linked to feelings of shame.

The findings of these studies indicate that firesetting acts are rarely associated with one single motivation but a combination of negative perceptions, emotions and situations which the act of firesetting appears to negate. Whilst the findings do not clearly answer why some individuals with low intellectual functioning engage in firesetting acts and others do not, they do highlight some of the reasons why people set fires and the powerful emotional and behavioural reinforcer that firesetting can provide.

4. What are the fire-specific assessment and treatment approaches used when working with adult firesetters with low intellectual functioning?

Fire-specific Assessments

Only one study reported on fire-specific assessments. In a non-randomised case control study, Murphy & Clare (1996) recruited seven male and three female firesetters with low intellectual functioning detained in a forensic inpatient service and matched them in age, gender and intellectual functioning to a control group of ten non-firesetting participants from two local learning disability day centres. The aim of the study was to compare the outcomes of the two groups on two fire-related measures devised by the authors.

Firesetting Assessment Schedule (FAS)

The Firesetting Assessment Schedule (FAS) requests respondents to retrospectively rate 32 statements relating to events, feelings and cognitions prior to and following their firesetting acts. Only the firesetters group completed the FAS as respondents were required to have a history of firesetting behaviour. The outcomes of the measure indicated firesetters with low intellectual functioning could reliably identify events, feelings and cognitions prior to firesetting (kappa 0.65) but were less reliable in identifying emotional and cognitive consequences (kappa 0.39).

Fire Interest Rating Scale (FIRS)

The Fire Interest Rating Scale (FIRS) is a 7-point scale which requires respondents to rate their 'upset' through to 'excitement' on 14 fire-related situations. The FIRS was completed by both the firesetter group and the control group. The results revealed only one

significant difference between the groups for fire interest; the firesetters group reported feeling more excited 'watching an ordinary coal fire in a fireplace in an ordinary house' ($p < 0.02$). These findings indicate that risky fire interest is not significantly different for firesetters with low intellectual functioning when compared to a non-firesetting control group.

A methodological limitation associated with the outcomes of this study is asking participants to respond to predetermined statements. This approach increases the possibility that participants may acquiesce and idiosyncratic clinical functions of firesetting are overlooked. Furthermore, the lack of triangulation of the data against other measures further impacts on the confidence attributed to the validity of the FAS. In view of these considerations, a cautious approach is advocated regarding the efficacy of these measures in accurately assessing fire interest and emotional and cognitive aspects of firesetting by people with low intellectual functioning.

Functional Analysis and Individualised Cognitive-Behavioural Treatment

Clare et al. (1992) reported the assessment and treatment of P.R. a 23 year old male firesetter with mild intellectual disability residing in a NHS specialist inpatient unit. Using a functional analysis approach for firesetting (Jackson et al. 1987), the assessment and formulation focused upon understanding P.R.'s developmental and life history, psychiatric diagnosis and interpersonal skills. The assessment indicated P.R. would benefit from a treatment package including social skills and assertiveness training, alternative coping strategies and 'assisted' covert-desensitisation. The outcomes of the treatment package indicated P.R. had improved his social skills and coping strategies and was successful in using an 'assisted' covert-sensitisation tape at times when he felt at risk of firesetting. At 30 months

post discharge P.R. was residing in a staffed community home for people with intellectual disabilities and there was no evidence he had made hoax calls to the fire brigade or set further fires.

As identified by the authors, the positive outcome of the intervention suggests that a functional analysis approach (Jackson et al. 1987) enabled a more complex assessment of contributory factors for firesetting and was more helpful in devising an individualised treatment package than simply providing an intervention based on identification of one motivation for firesetting. However, a methodological limitation of this study is that as P.R. was discharged to a supported environment and received monthly sessions with a psychologist, it could be considered that he was still in receipt of an intervention, thus enabling his firesetting risk and recidivism to be monitored and further reduced through additional intervention as appropriate.

Group-based social skills training

In a non-randomised case control study, Rice & Chaplin (1979) compared the treatment outcomes of an eight session group-based social skills intervention for ten male arsonists detained in a Maximum Security Psychiatric Hospital in the USA. Five participants had 'average or above' intellectual functioning and five participants had 'mild mental retardation or borderline functioning'. The results indicated significant improvements for both groups ($p < 0.05$) and at one year follow-up none of the participants were known to have engaged in further firesetting behaviours. Whilst based on a very small size, the results suggest that social skills' training was beneficial for firesetters with low intellectual functioning. This could be due to the programme's emphasis on increasing effective

communication skills; thus reducing social inadequacy and anger associated with firesetting risk (Clare et al. 1992; Kelly et al. 2009; Murphy & Clare 1996).

A methodological limitation of this study is linked to the authors using a token economy system to encourage participation. In particular, participants in the low intellectual functioning group were rewarded for participating in role play activities by receiving cigarettes and sweets at the end of the intervention. This incentive was not used for the control group and therefore introduces possible response bias. In conjunction with the assertion that individuals with low intellectual functioning are more likely to acquiesce (Murphy and Clare 1996) this raises further concern regarding the extent to which these findings can be relied upon.

Group-based cognitive-behavioural treatment

Four UK studies provided outcomes of group-based interventions. Hall et al. (2005) described the assessment process and delivery of an 18 week group-based cognitive-behavioural intervention designed to identify firesetting risk factors and reduce firesetting risk. The participants recruited into the study were six male firesetters with low intellectual functioning detained in a medium secure forensic unit. Prior to treatment, participants completed an assessment phase which comprised recording their perceived level of responsibility for the index offence and risk of reoffending alongside pre-treatment measures on fire interest (FIRS); fire attitudes (FAS), and self-esteem (Battle 1992: Culture-Free Self Esteem Inventory - 2nd Ed; CFSEI-2). Whilst this study reported the pre-treatment measures and group process there was only limited post-treatment outcome information provided for

some participants. This contributed to the study receiving a high risk of bias rating and resulted in no further commentary being possible.

The three remaining studies reported the outcomes of a 40-session cognitive-behavioural group-based intervention for firesetters with low intellectual functioning (Taylor et al. 2006; Taylor et al. 2002; Taylor et al. 2004). As highlighted previously, the studies include overlapping samples and therefore, a description of the assessment and treatment procedure is provided followed by general and gender-specific findings.

During assessment, participants completed pre- and post- outcome measures related to fire interest (FIRS); fire attitudes (FAS), anger (Novaco 1994: Novaco Anger Scale; NAS), self-esteem (Battle 1992), depression (Beck & Beck 1972: Beck Depression Inventory – Short Form: BDI-SF), and therapist-rated offence-related treatment scales (Kiresuk and Sherman 1968; Milne and Learmonth 1991; Goal Attainment Scale: GAS). The treatment programme was developed by the lead researchers (Thorne & Taylor 1999) and focused on the antecedents and consequences of fire-setting, coping strategies, support systems and relapse prevention.

Taylor et al. (2002) reported the combined treatment outcomes for eight men and six women following completion of the programme. The results indicated participants showed significant improvements in their fire interest and attitudes, self-esteem and anger. The therapist ratings of offence-related treatment targets also indicated significant improvements in participants' 'emotional expression' and understanding of 'risks' and 'victim issues'. No

significant improvement was found for depression; however the authors acknowledged the sample was not clinically depressed on commencement of treatment.

Taylor et al. (2004) provided additional sub-analysis for four male participants from the study highlighted above (Taylor et al. 2002). The findings revealed no significant improvements in scores on fire interest and attitudes for three participants; the authors hypothesise fire-related beliefs may not have played a pivotal role in firesetting for these individuals. All four participants showed non-significant improvements on anger disposition and two participants demonstrated an increase in self-esteem. The therapist ratings of offence-related treatment targets showed three participants had achieved satisfactory or better than expected outcomes. The study did not provide long-term follow-up data following the intervention.

The study by Taylor et al. (2006) provided additional sub-analysis for six female participants recruited in the Taylor et al. (2002) study. The results showed no improvement in scores on fire interest and attitudes; however, the authors highlight participants had neutral levels of preoccupation with fire prior to treatment. Non-significant improvements were found for anger, self-esteem and depression, perhaps due to the small sample size. In regard to therapist ratings of offence-related treatment targets only two participants made satisfactory improvements in 'personal responsibility' and 'victim issues'. The authors hypothesise therapist attempts to support participants may have inadvertently reinforced justifications for fire-setting and hampered their understanding of victim impact. At two-year follow-up, none of the participants were reported to have set a fire and five were living in community placements.

In reviewing these studies it is interesting to note that whilst the combined sample demonstrated significant improvements following the intervention (Taylor et al. 2002); the gender-specific sub-analysis demonstrated female participants made fewer improvements (Taylor et al. 2006). These findings indicate the treatment approach was less effective for females with low intellectual functioning and may reflect suggestions that ambiguity still remains regarding the specific etiological factors, assessment and treatment approaches for female firesetters in general (Gannon et al. 2012). The absence of a comparison group in these studies also impedes the conclusions drawn about the efficacy of the intervention.

Treatment approaches and firesetting risk and recidivism

A significant limitation in all of the firesetting treatment studies is the difficulty in identifying which specific treatment components are essential for reducing firesetting risk and this still remains inconclusive for adults with low intellectual functioning. In addition, participants either remained in secure hospital settings or were discharged to supervised community placements following intervention and therefore, it is possible that accessibility to incendiaries may have been monitored and restricted. As individuals also continued to receive some form of intervention via ongoing professional support and supervision from staff teams firesetting recidivism may have been externally mediated by contact with professionals. Based on these considerations it would be unwise to exclusively attribute reduction in firesetting behaviours as evidence for the effectiveness of reported treatment interventions.

DISCUSSION

Twelve studies relating to firesetting by people with low intellectual functioning were reviewed. Of these ten were published research papers and two were book chapters.

The high risk of methodological bias and poor evidential quality inherent in the research design of included studies revealed that findings should be treated as inconclusive. The studies provide limited understanding of firesetters with low intellectual functioning and definitive conclusions about risk factors, assessment and efficacious treatment approaches are difficult to delineate. Particular concerns include the small sample sizes of some studies, the lack of well defined and validated measurements of intellectual functioning, underreporting of criteria to determine the presence of studied variables, and the inconsistency of control groups for comparison of findings. As advocated throughout the synthesis, these sources of bias impact upon the extent to which study findings can be relied upon and an extremely cautious approach to interpreting and applying study findings is advocated.

The main findings indicate the majority of studies have been completed in the UK during the past decade and have recruited small numbers of participants with low intellectual functioning from a variety forensic community services and secure settings. It is indicated in the retrospective cohort studies that the number of firesetters with low intellectual functioning is small in comparison to firesetters with average or above functioning. The demographic characteristics of the overall participant pool also suggests male firesetters are more likely to be recruited into research studies, with the age of male participants ranging from 16 to 57 years and female participants 20 to 40 years. The measurement and reporting of intellectual

functioning was poor within the reviewed studies. Several studies failed to report the psychometric assessments and criteria used for determining intellectual functioning and none of the studies identified whether the participants' adaptive and social functioning had been considered. The omission of this information prevented the author reporting on the distribution of sub-levels of low intellectual functioning within the sample of studies and hindered further interpretation of these in relation to firesetting behaviour.

Firesetters with low intellectual functioning were characterised as having significantly more evidence of childhood abuse, childhood behavioural problems and childhood mental health difficulties when compared to firesetters with average or above intelligence. Male firesetters with mild intellectual disabilities were significantly more likely to have had childhood experiences of fire when compared to non-firesetting males with mild intellectual disabilities. The low intellectual functioning firesetters were also observed to have a higher prevalence of interpersonal difficulties, psychiatric diagnoses and borderline personality disorder.

The mean age of the first firesetting act was found to be 22 years in men and 30 years in women. The context of firesetting most commonly occurred in the participant's place of residency or on abandoned waste land. One study indicated firesetters with mild intellectual disabilities were found to have only arson in their offending history; whereas another study indicated participants appeared to have committed a variety of acquisitive offending behaviours and this did not differ significantly to firesetters with average or above functioning. Common perceptions and emotions prior to firesetting were identified as a belief that others were not paying attention or listening to their needs; a perceived inability to effect

social change; anger; sadness/depression; anxiety; boredom/need for stimulation; excitement at fire; suggestibility; mental illness; and auditory hallucinations. Following firesetting common perceptions and emotions included increased social attention; reduced anger; reduced feelings of boredom and a reduction in auditory hallucinations. Some participants indicated reduced levels of anxiety; whilst some participants identified increased anxiety and depression linked to feelings of shame about the firesetting act.

The review highlighted treatment approaches employed with firesetters with low intellectual functioning have included social skills training and cognitive-behavioural individual and group-work programmes. The studies have indicated varying levels of efficacy in reducing fire-interest and attitudes, anger and depression; and increasing self esteem in firesetters with low intellectual functioning. The findings of the studies also tentatively suggest that treatment needs of male and female firesetters with low intellectual functioning may differ. Whilst the reviewed treatment methods appear to have reduced risk and prevented further fire-setting for these samples, at least in the short-term, the components which contribute to reducing risk and recidivism remain unclear.

Clinical Implications and Future Research

As indicated throughout the review, the poor quality of evidence contributing to our current understanding of this population limits the confidence in which conclusions can be drawn; and further impacts on the generalisability of findings to inform decision-making in clinical practice and service priorities on a local, regional and international level. What currently remains unclear is whether adults with low intellectual functioning are more likely to engage in fire-related behaviours when compared to firesetters of average or above

intelligence or compared to other offending behaviours by people with low intellectual functioning more generally.

To complement our current understanding and to strengthen sound conclusions that can be made, future research would benefit from robust research designs which are longitudinal and employ larger and more diverse control groups. This would go some way to further understanding the association of variables such as gender and intellectual functioning, risk factors and their functions, and the development and measurement of effective assessment and treatment approaches. The incorporation of qualitative research focusing on understanding the person's experience may also go some way to bridging the gap between what is currently understood about firesetting and offer further insight into why some adults with low intellectual functioning engage in fire-related behaviours.

Based upon the findings of this review, it is clear there is no conclusive evidence to indicate whether differences exist between firesetters with low intellectual functioning and those with average or above intelligence. Only once additional research endeavours arise, will we have further empirical knowledge to develop our understanding of fire-related behaviours. This would help inform whether assessment and treatment approaches need to differ based on epidemiology and risk factors associated with firesetting by adults of varying levels of intellectual functioning.

REFERENCES

- American Psychiatric Association, 1994, *Diagnostic and Statistical Manual of Mental Disorders*, 4th edn, Text Revision, American Psychiatric Press, Washington DC.
- American Psychological Association, PsycINFO 2013. Available from:
<http://www.apa.org/pubs/databases/psycinfo/index.aspx>
- Battle, J 1995, *Culture Free Self-esteem Inventory (2nd edn.)* TX: Pro-Ed, Austin.
- Barnett, W & Spitzer, M 1994, 'Pathological fire-setting 1951-1991: A review', *Medicine, Science, and the Law*, vol. 34, pp. 4-20.
- Beck, AT & Beck, RW 1972, 'Screening depressed patients in family practice. A rapid Technique', *Postgraduate Medicine*, vol. 52, pp. 81- 85.
- Burton, PR, McNiel, DE & Binder, RL, 2012, 'Firesetting, arson, pyromania, and the forensic mental health expert', *Journal of American Academy of Psychiatry and the Law*, vol. 40, no. 3, pp. 355-365.
- Bryant, C 2008. 'Understanding bushfire: trends in deliberate vegetation fires in Australia. Technical and background', Australian Institute of Criminology, vol, 27. Available from: <http://www.aic.gov.au/publications/tbp/tbp027/>

Centre for Reviews and Dissemination 2008, *Systematic Reviews: CRD's guidance for undertaking reviews in health care*, University of York, York.

Clare, ICH, Murphy, GH, Cox, D & Chaplin, EH 1992, 'Assessment and treatment of fire-setting: A single-case investigation using a cognitive-behavioural model', *Criminal Behaviour and Mental Health*, vol. 2, pp. 253-268.

Deeks, JJ, Dinnes, J, D'Amico, R, Sowden, AJ, Sakarovich, C, Song, F, et al. 2003, 'Evaluating non-randomised intervention studies', *Health Technology Assessment*, vol. 7, pp. 3-186.

Department for Communities and Local Government 2013, *Fire statistics monitor*, Crown Copyright: United Kingdom, ISBN: 978-1-4098-3812-8. Available from: <https://www.gov.uk/government/publications/fire-statistics-monitor-april-to-september-2012>

Devapriam, J, Raju, LR, Singh, N, Collacott, R & Bhaumik, S 2007, 'Arson: characteristics and predisposing factors in offenders with intellectual disabilities', *The British Journal of Forensic Practice*, vol. 9, no. 4, pp. 23-27.

Dickens, G, Sugarman, P, Ahmad, F, Edgar, S, Hofberg, K & Tewari, S 2008, 'Characteristics of low IQ arsonists at psychiatric assessment', *Medicine, Science and the Law*, vol. 48, no. 3. Pp. 217-220.

Downs, SH & Black, N 1998, 'The feasibility of creating a checklist for the assessment of the methodological quality both of randomised and non-randomised studies of health care interventions' *Journal of Epidemiology and Community Health*, vol. 52, no. 6, pp. 377–384.

Fieandt, K & Kalimo, E 1975, *Wechsler Adult Intelligence Scale: The Manual*. Psykologien Kustannus OY, Helsinki.

Fraser, WI & Taylor, JL 2002, 'Forensic learning disabilities: the evidence base', *Journal of Intellectual Disability Research*, vol. 46, no. 1, pp. 1-85.

Gannon, TA & Pina, A 2010, 'Firesetting: Psychopathology, theory and treatment', *Aggression and Violent Behaviour*, vol. 15, no. 3, pp. 224–238.

Gannon, TA, Tyler, N, Barnoux, M & Pina, A 2012, 'Female Arsonists and Firesetters' in *Firesetting and Mental Health: Theory, Research and Practice*, eds G Dickens, P Sugarman & TA Gannon, The Royal College of Psychiatrists, London, pp. 126-143.

Geller, JL 2008, 'Firesetting: A burning issue' in *Serial murder and the psychology of violent crime*, ed RN Kocsis, Humana Press, Totowa, pp. 141–178.

Hall, JR 2007, *Intentional fires and arson*, National Fire Protection Association, Quincy.

Hall, I, Clayton, P & Johnson, P 2005, 'Arson and learning disability' in *The Handbook of Forensic Learning Disabilities*, eds T Riding, C Swann & B. Swann, Radcliffe Publishing, Oxford.

Heath, GA, Gayton, WF & Vaughn, HA 1976, 'Childhood firesetting' *The Canadian Psychiatric Association Journal*, vol. 21, no. 4, pp. 229-237

Higgins, JPT & Green S 2011, *Cochrane Handbook for Systematic Reviews of Interventions*, The Cochrane Collaboration.

Home Office 2002, *Information Related to Offences and Prosecutions under the 1971 Criminal Damage Act*, Home Office, London.

Huang, X, Lin, J & Demner-Fushman, D 2006, 'Evaluation of PICO as a knowledge Representation for Clinical Questions', *Proceedings of the AMIA Annual Symposium* pp. 359-363.

Jackson, HF 1994, 'Assessment of firesetters' in *The Assessment of Criminal Behaviours in Secure Settings*, eds M McMurrin & J Hodge, Jessica Kingsley, London, pp. 94-126.

Jackson, HF, Glass, C & Hope, S 1987, 'A functional analysis of recidivistic arson', *British Journal of Clinical Psychology*, vol. 26, pp. 175-185.

Kelly, J, Goodwill, AM, Keene, N & Thrift, S 2009, 'A retrospective study of historical risk factors for pathological arson in adults with mild intellectual disabilities' *British Journal of Forensic Practice*, vol. 11, no. 2, pp. 17-23.

Kiresuk, T & Sherman, R 1968, 'Goal attainment scaling: a general method of evaluating comprehensive mental health programmes' *Community Mental Health Journal*, vol. 4, pp. 443-453.

Kolko, DJ 1985, 'Juvenile firesetting: A review and methodological critique', *Clinical Psychology Review*, vol. 5, no. 4, pp. 345-376.

Liberati, A, Altman, DG, Tetzlaff, J, Mulrow, C, Gøtzsche, PC, Ioannidis, JPA, Clarke, M, Devereaux, PJ, Kleijnen, J & Moher, D 2009, 'The PRISMA statement for reporting systematic reviews and meta-analyses of studies that evaluate health care interventions: explanation and elaboration', *Journal of Clinical Epidemiology*, Vol.62, no. 10, pp. 1-34.

Lindberg, N, Holi, MM, Tani, P & Virkkunen, M 2005, 'Looking for pyromania: characteristics of a consecutive sample of Finnish male criminals with histories of recidivist fire-setting between 1973 and 1993', *BMC Psychiatry*, vol. 5, no.47.

Milne, D & Learmonth, M 1991, 'How to evaluate an occupational therapy service: a case study', *British Journal of Occupational Therapy*, vol. 54, pp. 42-44.

Moher, D, Liberati, A, Tetzlaff, J & Altman DG 2009, 'The PRISMA Group

Preferred Reporting Items for Systematic Reviews and Meta-Analyses: The PRISMA Statement' *Open Medicine*, vol. 3, no. 3, pp. 123-130.

Murphy, G 1990, 'Analysis of motivation and fire-related interest in people with mild learning difficulty who set fires'. Paper presented at the *International Congress on Treatment of Mental Illness and Behavioural Disorders in Mentally Retarded People*, Amsterdam.

Murphy, GH & Clare, ICH 1996, 'Analysis of motivation in people with mild learning disabilities (mental handicap) who set fires', *Psychology, Crime & Law*, vol. 2, pp. 153-164.

National Institute of Clinical Excellence Guidelines Developmental Methods 2005, *Reviewing and grading the evidence (revised)*. Available from:
<http://www.nice.org.uk/aboutnice/howwework/developingniceclinicalguidelines>

National Institute of Clinical Excellence, 2013. Available from: <http://www.nice.org.uk/>

Novaco, RW 1994, 'Anger as a risk factor for violence among the mentally disordered' in *Violence and Mental Disorder: Developments in Risk Assessment*, eds J Monahan & HJ Steadman, University of Chicago Press: Chicago.

Noyes, J & Lewin, S 2011, 'Chapter 6: Supplemental Guidance on Selecting a Method of Qualitative Evidence Synthesis, and Integrating Qualitative Evidence with Cochrane Intervention Reviews' in *Supplementary Guidance for Inclusion of Qualitative Research in Cochrane Systematic Reviews of Interventions*, eds J Noyes J, A Booth, J Hannes, A Harden, J Harris, S Lewin & C Lockwood, Cochrane Collaboration Qualitative Methods Group. Available from: <http://cqrng.cochrane.org/supplemental-handbook-guidance>

Palmer, EJ, Caufield, LS & Hollin, CR 2005, 'Interventions with arsonists and young firesetters: A survey of the national picture in England and Wales' *The British Psychological Society*, vol. 12, pp. 101–116.

Petticrew, M & Roberts, M 2006, *Systematic Reviews in the Social Sciences: A Practical Guide*, Blackwell, Oxford.

Rasanen, P, Hirvenoj, A, Hakko, H & Vacisaenen, E 1994 'Cognitive functioning ability of arsonists' *Journal of Forensic Psychiatry*, vol. 5, pp. 615-20.

Rice, ME & Chaplin, TC 1979, 'Social skills training for hospitalised male arsonists' *Journal of Behaviour Therapy and Experiential Psychiatry*, vol. 10, pp. 105-108.

Smith. J & Short, J 1995, 'Mentally disordered firesetters', *British Journal of Hospital Medicine*, vol. 53, no. 4, pp. 136-140.

Smith, H, White, T & Walker, P 2008, 'Offending in the learning disabled population: a retrospective audit of Tayside learning disability service court reports', *Medicine, Science and the Law*, vol48, no. 1, pp. 31-36.

Soothill, K, Ackerley, E & Francis, B 2004, 'The criminal careers of arsonists', *Medicine, Science and the Law*, vol. 44, pp. 27-40.

Taylor, JL, Robertson, A, Thorne, I, Belshaw, T & Watson, A 2006, 'Responses of Female Fire-Setters with Mild and Borderline Intellectual Disabilities to a Group Intervention', *Journal of Applied Research in Intellectual Disabilities*, vol. 19, pp. 179-190.

Taylor, JL, Thorne, I, Robertson, A & Avery, G 2002, 'Evaluation of a group intervention for convicted arsonists with mild and borderline intellectual disabilities', *Criminal Behaviour and Mental Health*, vol. 12, pp. 282-293.

Taylor, JL, Thorne, I & Slavin, M 2004, 'Treatment of firesetters' in *Offenders with Developmental Disabilities*, eds WR Lindsay, JL Taylor & P Sturmey, Wiley, Chichester, pp. 221-240.

The Campbell Collaboration of Systematic Reviews 2013. Available from:

<http://www.campbellcollaboration.org/lib/>

The Database of Abstracts of Reviews of Effects 2013. Available from:

<http://www.library.ucsf.edu/db/database-abstracts-reviews-effects-dare>

The Mental Health Act 1983, The Stationery Office, London.

Thorne, I & Taylor, JL 1999, *A Treatment Manual for Firesetters with Learning Disabilities*, Northgate & Prudhoe NHS Trust, Morpeth.

Tyler, N & Gannon, TA 2012, 'Explanations of Firesetting in Mentally Disordered Offenders: A Review of the Literature', *Psychiatry: Interpersonal and Biological Processes*, vol. 75, no. 2, pp. 150-166.

United States National Library of Medicine 2013. Available from: <http://www.nlm.nih.gov/>

Wechsler, D 1965, *The Measurement and Appraisal of Adult Intelligence (4th edn)*, Williams & Wilkins, Baltimore.

Wechsler, D 1981, *Wechsler Adult Intelligence Scale-Revised Manual*, Psychological Corporation, Cleveland.

**FIRESETTING BY MEN WITH MILD INTELLECTUAL DISABILITIES:
A QUALITATIVE STUDY OF THE PERSON'S EXPERIENCE**

“People set fires for different reasons, because they’re probably scared at home, or they’re excited, or they want to try and tell someone how they feel”

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ABSTRACT

Background: To the author's knowledge there have been no published research studies to date which have applied qualitative methodology to understand the lived experiences of people with intellectual disabilities who set fires.

Method: Interpretative Phenomenological Analysis was used to interpret the subjective experiential claims of seven male firesetters with mild intellectual disabilities residing in medium and low secure units based within one forensic learning disability hospital.

Results: Five super-ordinate themes emerged from the analysis. The first super-ordinate theme 'The importance of the first fire' discussed participants' interpretations of their first fire and responses to it. The following three super-ordinate themes concerned participants' repeat acts of firesetting: 'Firesetting to escape distress' explored firesetting to escape negative emotional states; 'Firesetting to enable positive emotional experiences' conveyed temporary positive emotional experiences during and immediately following fire acts; and 'Firesetting to communicate with services' revealed firesetting to achieve containment by services. The final super-ordinate theme 'The Fire Setters Treatment Programme (FSTP)' described participants' perceptions of the therapeutic alliance, the danger of fire and attitudes towards future fire acts.

Conclusion: The study offers insight into why some firesetting behaviours emerge and how they are maintained for men with mild intellectual disabilities. Future research is required to develop firesetter risk assessment and treatment interventions in a variety of service settings.

Keywords: Firesetting; arson; intellectual disability; Interpretative Phenomenological Analysis (IPA)

BACKGROUND

Firesetting in context

The most recent figures provided by the Arson Prevention Bureau (2011) estimated that each week in the United Kingdom there were 2,213 arson attacks which resulted in 2 deaths and 53 injuries to people. Damage and destruction to property per week was estimated to involve 20 schools and colleges, 262 homes, 360 businesses and public buildings and 1,402 cars; the weekly estimated cost of arson to the economy was £53.8 million.

Firesetting by people with mild intellectual disabilities

Some authors suggest individuals with intellectual disabilities feature more highly in regard to pathological arson (firesetting) than any other group (Devapriam et al. 2007; Dickens et al. 2007; Hall et al. 2005). Despite this, there is currently a dearth of research to understand the reasons for such fire setting acts and limited evidence for the effectiveness of existing intervention strategies (Lees-Warley, 2013, this volume).

Within the literature there are currently three published studies which have specifically reported the antecedents to firesetting by people with mild intellectual disabilities. In a non-randomised case control study involving seven male firesetters and three female firesetters with mild intellectual disabilities, Murphy and Clare (1996) found the most common triggers before setting fires were feelings of anger, not feeling listened to/lack of attention, feelings of sadness and depression and auditory hallucinations. As the first published U.K. study to specifically investigate the factors for fire setting by a small sample of individuals, this research offered preliminary knowledge for clinicians conducting

risk assessment and therapeutic interventions in forensic intellectual disability services. However, a limitation of this study is that participants were asked to identify and rate their antecedents to firesetting from a list of predetermined statements. This suggests that important clinical information related to precursors to firesetting may have been missed by not accessing the participants' individual accounts of fire-related acts.

Clare et al. (1992) reported the precursors to firesetting for one male firesetter with mild intellectual disability. The participant was a 23 year-old man living in a secure specialist inpatient service with a history of arson and making hoax calls to the fire services. The assessment phase focused upon developing an understanding of his developmental and life history, cognitive ability and psychiatric diagnosis. The participant completed a self-report questionnaire to identify his thoughts and feelings prior to setting fires. This information was used to develop a formulation of his fire-related behaviours and identified that before fire setting he felt anxious, that people were not listening to him, boredom, sadness and anger.

A study by Kelly et al. (2009) utilised a retrospective case control study to ascertain historical risk factors associated with firesetting by 10 men with mild intellectual disabilities living in inpatient forensic services. The results indicated that childhood experiences of fire ('fire play', 'personal experience of fire', 'symbolic significance of fire' and 'vicarious experience of fire') and the participants' perceived inability to effect social change in their own lives ('external locus of control', 'low confidence in dealing with conflict' and/or 'avoidance of confrontation') were significant historical risk factors for arson. Limitations associated with the study's findings included the small sample size, the difficulties inherent

in retrospectively identifying and classifying antecedents for firesetting behaviours, and the lack of triangulation of the data in the absence of talking to the individual.

The findings of the above studies relate to just eighteen male firesetters and three female firesetters with mild intellectual disabilities and therefore current clinical knowledge regarding fire-related behaviours by this group remains scant. The use of self-report questionnaires and retrospective case reviews to identify antecedents to firesetting behaviour further limits the reliability and validity that can be attributed to these findings. Furthermore, none of the studies have explored participants' actual lived experience of firesetting and therefore knowledge regarding the meaning making of firesetters with intellectual disabilities remains unknown. To date, the author is unaware of any published studies which have used qualitative methodology to understand the experiences of this group of individuals.

The current study

This study seeks to use Interpretative Phenomenological Analysis (IPA, Larkin & Thompson 2011) to explore the meaning making of deliberate acts of firesetting by men with mild intellectual disabilities. It is hoped the results will enhance clinical and theoretical understanding of firesetting by this group; highlight future research opportunities and offer a meaningful contribution to considering evolving risk assessment measures, risk reduction strategies and treatment interventions. In addition, it is hoped that the study will further contribute to identifying the best ways to support people with intellectual disabilities and highlight suggestions for facilitating successful rehabilitation in the community.

METHOD

Ethical Approval

Ethical approval for the research was granted by a NHS Research Ethics Committee (Appendix 9) and the Research and Development Department of the participating NHS Trust (Appendix 10). Sponsorship for the study was provided by The University of Birmingham (Appendix 11).

Design

The qualitative approach employed in this study was Interpretative Phenomenological Analysis (IPA, Larkin & Thompson 2011). IPA is concerned with phenomenology and is focused on attempting to understand the subjective experiences and psychological meanings an individual assigns to a specific event. The interpretative element of IPA acknowledges the researcher's approach as entailing a double hermeneutic process which involves making sense of how participants have made sense of their lived experience. In this study, semi-structured interviews were used to explore the personal meanings people with mild intellectual disabilities gave for their deliberate acts of firesetting. These were analysed in adherence with IPA methodology to develop a detailed interpretative account of key themes in the subjective experiences of adult men with mild intellectual disability who have set fires.

Why IPA?

Prior to commencing the study, the researcher compared IPA and grounded theory methodologies to determine which approach was most in keeping with the study aims. IPA was selected for the following reasons; firstly, the researcher felt that as no published study

has provided qualitative data regarding the experiences of firesetters with intellectual disabilities, it was morally and clinically important to apply IPA methodology to develop an idiosyncratic narrative which provided insight and captured the complexity of their often unheard lived experiences. Secondly, IPA was favoured over grounded theory as it enabled detailed analysis and interpretation of individual experiential claims. This felt aligned with developing an understanding of the meaning making of male firesetters with intellectual disabilities, as opposed to adhering to the premise of grounded theory by recruiting a larger sample to construct a wider theoretically-driven conceptualisation.

Participants

IPA proposes an idiographic approach to understanding experience and therefore recommends that selected samples are small (typically 6-8 participants) and comparatively homogenous. To maximize the homogeneity of the sample all of the participants were recruited from medium and low secure units based within one forensic learning disability hospital. All participants were detained under the Mental Health Act (1983).

A purposive sampling approach was used which enabled clinicians working in the service to identify people who met the inclusion criteria of the study. The inclusion criteria were that participants were male, aged 18 years and over, had a mild or moderate intellectual disability, had deliberately set a fire and were undertaking or had completed individual or group treatment for firesetting provided by the service. Participants were excluded from the study if they were unable to provide informed consent or their command of English was insufficient to enable them to take part in the interview unassisted. This criterion was in place due to the financial constraints of recruiting interpreters.

Professionals from the Multi Disciplinary Team (MDT) at the service identified nine individuals who were eligible to participate in the study. This method of recruitment was chosen to reduce undue influence or bias from the researcher during the selection of participants for the study. During review by the MDT two participants were excluded from the study due to risk of crisis or burden associated with taking part. The remaining seven eligible participants were approached by clinicians assigned to their care and all provided written informed consent to participate. To ensure anonymity, participant data was assigned a pseudonym and any identifying information was removed during transcription.

The recruited participants were aged between 23 and 46 years old (mean = 36.3), had an intellectual quotient ranging from 56 to 70 and were all white British. The key demographic and offence characteristics for each participant are provided in Table 8 below. The information was collated from case notes review conducted by the Psychology Department at the hospital and was not provided to the researcher until the analysis had been completed. This was deemed necessary to minimise the influence of researcher bias and ‘bracket off’ knowledge regarding the participants whilst constructing the themes.

Table 8: Key demographic and offence characteristics of participants

Participant (Age)	FSIQ	Psychiatric Diagnosis	Childhood Trauma	Firesetting history (age)	Offending history Non-firesetting	Treatment Type
Bruce (46)	68 WAIS -III	Mild Learning Disability	Physical abuse inter-familial Physical abuse extra-familial Sexual abuse extra-familial	Childhood - Reported - Set fire to a medical cupboard and attempted to prevent entry to the room / fire in a church hall (14) / Several fires on his school campus and nearby woods (15) Adulthood - Reported - Set fire to a local community building (20) Child Convictions - Arson - fire to toilet seat in school - 2 year supervision order (12) - Arson - fire in a school gym (15) Adult Convictions - Arson - set fire at Training Centre (21)	Adulthood: - Sexual offence	Previous - Emotional regulation - Trauma - Sexual offending - Consultation with staff - Thinking Skills - Fire Setters Treatment Programme Current - Maintenance sessions - trauma and emotional regulation - Offender Relationship Treatment Programme
Daniel (45)	70 WAIS -III	Mild Learning Disability	Physical abuse inter-familial	Adulthood - Reported - Alleged set 2 fires in a hostel he was residing in (19) / Set fire to a dustbin resulting in a shop blaze (24) Adult Convictions - Arson x 2 (34) Caution - Arson x 5 (37)	Adulthood - Burglary and Theft – Non Dwelling x 6 - Breach of the Peace - Drunk and Disorderly x 2 - Criminal Damage - Common Assault	Previous - Motivational Enhancement - Anxiety management - Fire Setter Treatment Programme- Not completed - Individual Offence Specific work

Participant (Age)	FSIQ	Psychiatric Diagnosis	Childhood Trauma	Firesetting history (age)	Offending history Non-firesetting	Treatment Type
Eddie (43)	70 WAIS-III	Mild Learning Disability Recurrent Depressive Disorder	None Recorded	Adult Convictions - Arson with intent to endanger life (25) - Arson (38)	None Recorded	Previous - Fire Setter Treatment Programme - Individual Therapy - Individual CAT Therapy
Francis (27)	58 WAIS-III	Mild Learning Disability Unstable Borderline Personality Disorder	None Recorded	Child Conviction - Arson (16)	Childhood - Criminal Damage x 2 - Theft from Person - Obtaining Property by Deception - Breach of Conditional Discharge x 2 - Theft - Common Assault Adulthood - Drunk and Disorderly x 2 - False Information Causing Bomb Hoax - Disorderly Behaviour or Threatening Harassment Alarm or Distress - Communicating False Information - Anti Social Behaviour Order (ASBO)	Previous - Emotional Recognition - Thinking Skills Programme - Fire Setters Treatment Programme

Participant (Age)	FSIQ	Psychiatric Diagnosis	Childhood Trauma	Firesetting history (age)	Offending history Non-firesetting	Treatment Type
Jason (24)	65 WAIS-III	Mild Learning Disability Neurofibromatosis type 1	Sexual abuse inter-familial	Child Convictions - Arson x 2 and Attempted Arson (13) - Arson x 4 (14) Adult Convictions - Arson - fire to toilets in a library (18) - Arson - fire to a flat where his friend was a tenant (21)	Offences aged 15 to 19 - Offences Against Property x 23 - Theft and Kindred Offences x 3 - Offences Against the Person x 2 - Offences related to Police / Courts / Prisons x 4 - Miscellaneous x 2 - Public Disorder x 3 - Possessing a loaded / unloaded air weapon in a public place	Previous - Fire Setters Treatment Programme - Individual Trauma Related Therapy Current - Individual DBT skills teaching sessions - DBT Primary Therapy
Phillip (23)	57 WASI	Mild Learning Disability	Physical abuse inter-familial	Childhood - Reported - Set fire to the carpet in his parents' home (4) / fire to a bin at a bus stop (10) fire in his children's care home (15) Adulthood - Reported - Set fire in a large bin in the car park of care facility / set fire to his cell while remanded in prison (18) Adult Conviction - Arson - reckless as to whether life was endangered	Childhood - Damage to shop windows and buses by throwing stones - Damaged neighbours cars with his room key - Broke a telephone kiosk window Adulthood - Damage to property by breaking and dismantling objects	Previous - Fire Setters Treatment Programme - Offence Specific Treatment

Participant (Age)	FSIQ	Psychiatric Diagnosis	Childhood Trauma	Firesetting history (age)	Offending history Non-firesetting	Treatment Type
Robert (46)	56 WAIS-III	Mild Learning Disability	Beaten with a belt Attacked with a knife Made homeless by family	Adult Convictions - Arson – probation order (32) - Arson - Reckless Arson (39)	Adulthood - Drunk and Disorderly x 8 - Carrying a knife x 3 - Misbehaving in the Street Putting Other People in Fear x 11 - Common Assault	Previous - Executive Functioning Assessment and Therapy relating to offence - Individual work for substance misuse management Current - Individual work for substance misuse - Fire Setters Treatment Programme

Procedure

Providing Information to Clinicians

Prior to commencing the research a meeting was held with six unit managers from the hospital who were independent to the study. The meeting was held by the researcher to explain the purpose of the research, share the information sheet and capacity to consent process and to discuss the role of clinicians in supporting individuals to make informed decisions. This meeting was essential for enabling clinicians to work collaboratively and independently with individuals during the recruitment phase of the study.

Recruiting Participants

Following the meeting, eligible participants were contacted by a clinician who they knew and invited to take part in a study about their acts of firesetting. Individuals who expressed an interest in participating were provided with a participant information sheet highlighting each step of the research process and the rights of the individual (Appendix 12). Participants were supported to read the information sheet and to discuss the contents. Each individual was given a minimum of one day to consider whether they would like to take part and were then asked if they were interested in participating.

Determining Capacity to Consent

Individuals who expressed an interest were supported to re-read the information sheet and were encouraged to ask questions. Following this, eligible participants were asked four standardised questions to check their understanding of the study and their capacity to provide full informed consent to take part (Appendix 13). The answers to these questions had been highlighted in the information sheet. This approach was taken as Arscott et al. (1998)

advocate the necessity to assess the understanding of adults with intellectual disabilities about the study prior to their involvement. This highlighted whether participants fully understood their rights and whether additional information was required to support individuals in providing informed consent. All of the seven potential participants who were approached demonstrated capacity to consent by answering all four questions correctly and all provided written consent (Appendix 14).

Participant Information Sheet

The participant information sheet (Appendix 12) was designed by the chief investigator in conjunction with a Consultant Clinical Psychologist and the Speech and Language Therapy team within the Service. It was constructed in accordance with the National Research Ethics Service 'Information Sheets and Consent Forms: Guidance for Researchers and Reviewers' (2011) and the Department of Health guidance 'Making written information easier to understand for people with learning disabilities' (2010). Particular recommendations followed included presenting each concept in both words and pictures with the use of simple sentences that sounded natural when spoken. This made the information easier to understand and enabled the request for consent to be accessible for individuals with mild intellectual disabilities

Interview Topic Guide

A semi-structured interview topic guide was devised by the researcher and focused on eliciting each participant's experiences of firesetting and the meanings they attach to their firesetting behaviour. The interview topic guide is provided in Table 9 below.

Table 9: Interview Topic Guide

The individual's experience of firesetting

The aim was to elicit the participant's individual experience of firesetting and the personal meaning they attached to it.

I would like to ask you some questions about when you set a fire

Firesetting – Prompts – How it was carried out

- Tell me about the fire you set
- Why do you think you set a fire?
- Where did you set a fire / did you know the place / the person who lived there / worked there?
- How did you set the fire? What did you use to set the fire?

Firesetting – Prompts – Why it seemed important to set a fire

- Why did you set the fire? What did you want to happen?
- Had you thought about setting the fire?
- How did you feel before you set the fire?
- How did you feel when the fire was burning?

Firesetting – Prompts - Consequences

- What did you do after you set the fire / what happened after you set the fire?
- How did setting the fire make you feel?
- What changed after you set the fire? Where you lived, relationships with your friends, relationships with your family? Relationship with mental health services?
- How do you feel about setting a fire now?

The guide adhered to IPA guidelines which recommend flexible interviewing to elicit experiences of the phenomena (firesetting), rather than prescriptive interviews which may miss personal meaning making and emotional understanding. IPA asserts the role of the researcher in asking participants questions that enable them to tell their story and it is not the responsibility of the participant to answer the research question or make links between the psychological processes that underpin their experience. This assertion further corroborates the choice of IPA in this study.

In line with IPA recommendations the semi-structured topic guide was used as a framework to generate dialogue and facilitate conversation with the participant about salient themes associated with their firesetting. This enabled the researcher to follow the participant's responses closely, ask follow-up questions to clarify meaning and enquire about salient themes. As participants had mild intellectual disabilities, prompts were used to elicit information, help the participant make sense of the question and break down complex ideas. The use of paraphrasing and summarising and the conversational style of the interview also reduced the likelihood of acquiescent responding.

Interview Format

Each participant was interviewed on one occasion which took place in a private room at the hospital. Each interview was digitally audio-recorded. The shortest interview took 22 minutes and the longest interview 1 hour and 38 minutes (mean length 17.14 minutes). Following the interview, a discussion was held with each participant regarding how they would access support if required. This was shared with the clinician assigned to their care. Entries of participation were recorded in the participants' nursing and psychology notes

alongside information regarding whom to contact if the participant requested additional support.

Analytic Process

Each interview was transcribed verbatim by the researcher and all identifying information removed. In line with IPA recommendations the iterative and inductive component of IPA was undertaken systematically in a series of six non-linear stages (Smith et al. 2009). In the first stage, each transcript was analysed separately in order for the researcher to immerse themselves in the narrative and subjective experience of the participant. This involved listening to each participant's audio-recording alongside reading and re-reading the transcript. In stage two, the researcher conducted phenomenological coding in which initial thoughts regarding descriptive, linguistic and conceptual comments were recorded for each line of the transcript.

In stages three to five, the researcher focused on consideration of emerging themes grounded within the participant's subjective understanding of their firesetting acts. This enabled preliminary interpretation and integration of psychological knowledge to understand how the participant experienced and made sense of their firesetting behaviours (Smith, 2004). These were used to identify the emergence of similarities, differences and commonalities within the participant's subjective experience and a list of initial themes was recorded in the order presented by the participant. A reflexive diary enabled the researcher to bracket off themes generated from previous participants' transcripts to enable emersion in each transcript and reduce premature grouping of themes across participants. The final stage of analysis involved reviewing and comparing all of the transcripts across the group. This

enabled identification of theme clusters and final interpretations which reflected the relationship between theme structures and the collective experiential claims of the participants.

Credibility and Validity Analysis

To increase the plausibility and credibility of interpretations, the coding and emergent themes were reviewed and discussed with academic and clinical supervisors and a researcher, independent of the study, who has expertise in conducting IPA research. These discussions took place to corroborate that interpretations were grounded in the data. The researcher also engaged in regular IPA peer group meetings which provided alternative perspectives and considerations of the experiential claims of the participants. Whilst this approach reduced researcher bias by providing triangulation and validity checking, the resultant themes remain reflective of the researcher's subjective interpretation. IPA acknowledges that other researchers may hold alternative interpretations, however this is perceived as an inevitable bias inherent in interpretative approaches (Smith et al. 2009).

Reflexive Account

A reflexive diary was kept throughout the development and implementation of the research project in order to 'bracket off' my previous professional experiences and personal perspective (Smith. 2004). The purpose of this was to reduce the influence of researcher bias during formulation of the interview topic guide, conducting the interviews, and interpreting participants' narratives. Despite this approach and all best efforts, it is likely that my previous experiences may have permeated the interview and interpretation processes to some extent.

I initially became curious about deliberate firesetting by men with mild intellectual disabilities during my previous role as a Trainee Forensic Psychologist working in the Prison Service. Throughout my role I worked psychologically with several men who had received a life sentence as a consequence of repeat firesetting acts. Whilst engaging with clients I became aware of the dearth of evidence pertaining to firesetters with intellectual disabilities and the methodological limitations inherent in the literature. At that time, I recall being perplexed by the evidence-base when I discovered the meaning-making of firesetters with intellectual disabilities had never been explored, despite claims that this population were more likely to commit arson than any other group. When I became aware of this research project I was keen to be involved. I was particularly interested in enabling individuals to tell their unique life stories and to share their meaning making of fire-related behaviours.

I found the interview process emotionally demanding. I was aware of the participants' level of intellectual functioning and I was mindful of helping them remain focused on the topic whilst not asking leading questions. During the interviews I was incredibly saddened by the participants' emotional experiences of abuse, their personal struggles and feelings of isolation, and the difficulties they had faced in their interactions with services. I often caught myself thinking of participants' narratives whilst at home and found myself comparing participants' enduring childhood distress to the life circumstances and positive emotional experiences of my seven year old son. I found the reflexive diary exceptionally beneficial at these times, as I was able to document my thoughts and associated feelings. This further enabled me to 'bracket off' my personal perspective and maintain focus on the experiential claims of the participants.

The analysis and interpretation of narratives was also a difficult task. I experienced overwhelming pressure to convey the distress experienced by each participant and the sample as a whole, and to '*get it right*' on their behalf. On reflection, this perhaps echoed the struggles of participants and their perception of frequent failed attempts to effectively communicate their difficulties to others. I feel exceptionally privileged that the participants in this study were willing to share their meaning making of their fire-related behaviours; and that they found courage to trust their experiences would be conveyed with the respect and dignity they warrant.

RESULTS

The analysis identified five super-ordinate themes and reflected participants' stories of their firesetting journey from the first fire, through to repeated acts of firesetting and finally their engagement in treatment. The first super-ordinate theme 'The importance of the first fire' encapsulates participants' meaning making of their first act of firesetting. It conveys the participants' understanding of why they set their first fire and details their consequent emotional experience and the response of others.

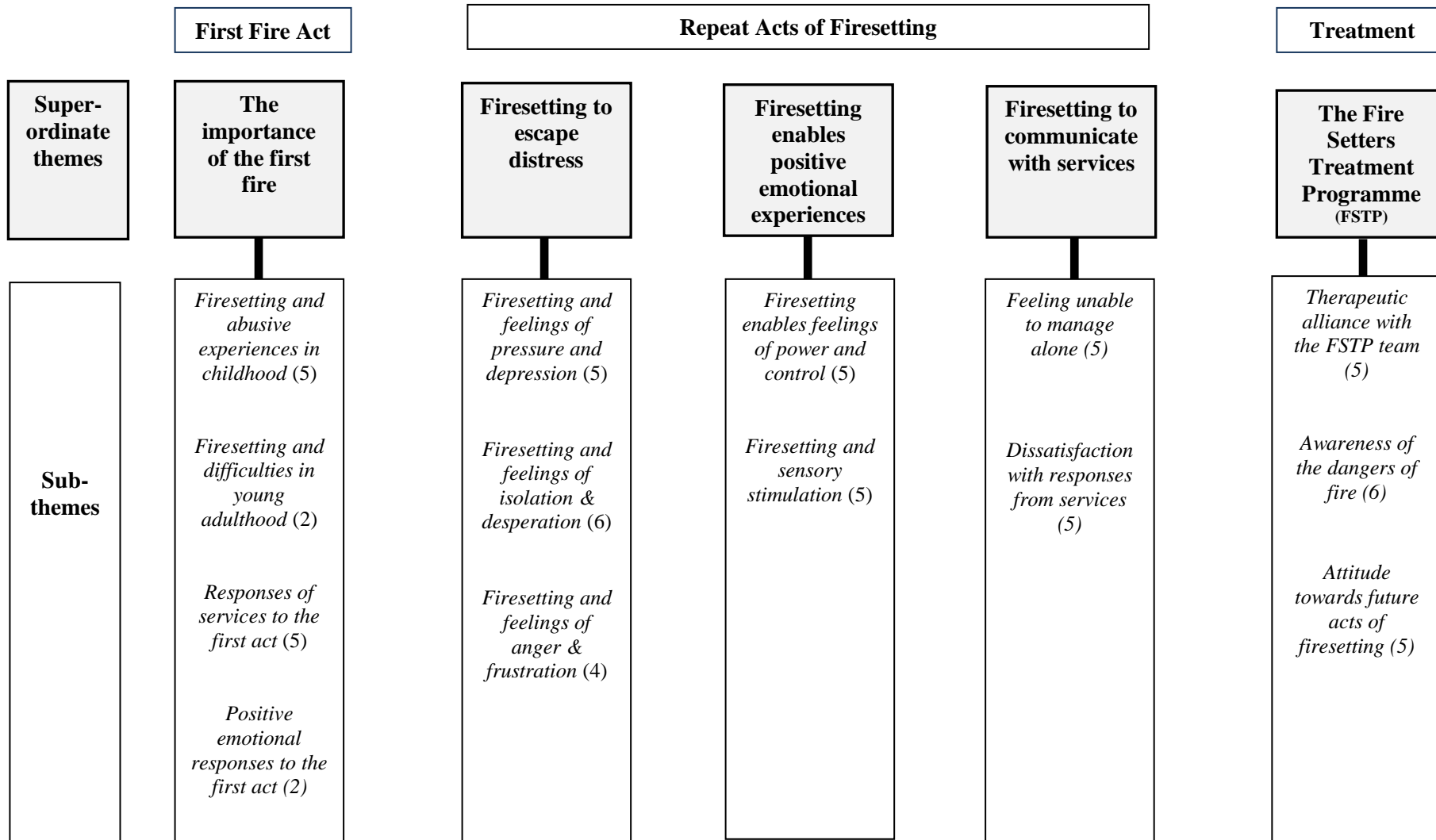
The following three super-ordinate themes represent participants' meaning making of their repeated acts of firesetting. The super-ordinate theme 'Firesetting to escape distress' exemplifies participants' firesetting behaviours as an attempt to escape overwhelming negative emotions; 'Firesetting enables positive emotional experiences' conveys participants' narratives regarding the positive emotional experiences they derived from firesetting; and the super-ordinate theme 'Firesetting to communicate with services' presents participants' meaning making that repeat firesetting acts reflected attempts to achieve emotional and physical containment from professional services.

The final super-ordinate theme 'The Fire Setters Treatment Programme (FSTP)' describes participants' experience of engaging in the Firesetters Treatment Programme (FSTP) in regard to their therapeutic alliance with FSTP facilitators, their awareness of the dangers of fire, and their attitudes towards future firesetting behaviour.

The identified themes are reflective of the samples' meaning making and are presented with a commentary and supporting quotes denoting similarities and differences in participants' experiences where applicable. It was evident during analysis that strands of participants' understanding about their first fire act were interwoven with narratives regarding persistent firesetting behaviours. Therefore, whilst themes are presented as distinct categories, there is inevitably a degree of overlap due to the interplay between participants' individual experiences and the complexity of their firesetting behaviours.

Figure 2 below illustrates the structure of the super-ordinate themes and corresponding sub themes; the number of participants whose narrative contributed to each theme is presented in parenthesis.

Figure 2: Structure of superordinate themes and corresponding subthemes



Super-ordinate theme 1: The importance of the first fire

This super-ordinate theme provides a foundation for understanding the function of participants' first experience of firesetting and its relationship to the maintenance and longevity of future firesetting behaviours. All participants chose to present their story of firesetting in chronological order, and whilst each experience was idiosyncratic, there was a strong sense that participants needed to start with the context in which firesetting initially occurred. It seemed natural for participants to begin here, and it appeared that, perhaps through their experiences of the legal system and engagement in therapy, they had repeated this narrative many times.

The participants' provided shared experiential claims that the first act of firesetting had occurred as a reaction to enduring distress experienced in the context of '*abusive childhood experiences*'. Five participants described that their first fire occurred as a young child and had reflected their attempt to cope with overwhelming feelings of vulnerability and perceived helplessness. Jason and Bruce interpreted that their firesetting had arisen as a consequence of experiencing inter-familial and extra-familial childhood sexual abuse.

"Sexual abuse, yeah so it started off from a young age, and ever since then, it just started with different things, it started when I was at home and then it started when I used to go out in the car... so I'd go to school feeling scared and I used to, er, basically I wasn't eating, I used to hide food cause, er, it was one of those, I used to, er, basically, er, keep, telling the social services that er, that I wanted to go into care... the only way to deal with it was fires, basically, fire was to get away from, er, the trouble at home" - Jason

When Jason shares his experience of sexual abuse he conveys a sense that it pervaded all aspects of his life; in both the frequency of the abuse itself and the permanency of distress within his life. Implicit in his story is the sense of desperation he conveys in trying to indirectly communicate his emotional experience by restricting his food consumption. He describes his first fire act occurred when he perceived other attempts to escape his experience had been unsuccessful, for example, requesting to go into care. Within Jason's narrative there is an essence of perceived inevitability; that fire was the '*only way*' to '*get away*'.

Phillip and Robert interpreted that their first firesetting act had occurred in childhood as a response to experiencing and witnessing domestic abuse.

"I was 6 or 7, I set the back of my dad's, my mom, and my dad's carpet alight, at the back of the tele... because they were, were always fighting and they never fed us properly, I kept eating frozen sausages and chips out the freezer. That's why I did it, trying, trying to make them stop" - Phillip

Phillip's narrative conveys a powerful image of a young child trapped within an abusive home environment. His integration of a direct example of his neglect demonstrates the severity of his negative childhood experiences and emphasises the distressing circumstances in which his first fire occurred. Phillip offers a direct interpretation that his first act was his attempt to attract attention towards this neglect and '*stop*' enduring parental conflict.

Francis described his first act of firesetting occurred at the age of eight in response to being bullied by his next door neighbour who had repeatedly instructed his dog to attack him.

“He kept setting his dog on to me, most days... I was annoyed, at, angry towards the neighbour... I was thinking for about a week, I, I jumped over the fence and I poured some petrol on the tyres and set them on fire” - Francis

Francis’ account provides insight into his rumination on angry thoughts and feelings which resulted in an intention to retaliate in a situation where he felt victimised. Francis conveys an image, that as a child, he perceived alternative responses to the situation and sources of support were unavailable to him.

In contrast to childhood firesetting, two participants identified firesetting had occurred in relation to their experience of *‘interpersonal difficulties in young adulthood’*. Eddie recalled his first fire occurred at the age of twenty; however the commonality of his experiential claim was the use of fire to escape from his perception of feeling *‘trapped’* in an unhappy and *‘controlling’* interpersonal relationship.

“Me and my partner, we wasn’t getting on that well, you know we’d argue and argue about stupid things, she was very controlling, and er, possessive... I just got fed up of the relationship and, and, it was very hard to say, you know, goodbye... she’d say something like, well if you leave me I’m going to top myself, you know, and, as though I was trapped in that relationship and I couldn’t get out of it. So, erm, in the end, I just, set a fire. I thought,

well it was gonna gut, gut the place so I couldn't live with her anymore and that would solve the problem" - Eddie

In Eddie's account he is able to articulate his thoughts regarding his choice to set a fire and this perhaps reflects the fact his first act occurred in adulthood when his ability to make sense of his situation had matured , or due to his level of cognitive functioning or linked to his level of success in therapy. Either way, his narrative portrays conflicting thoughts about ending the relationship and suggests he was unable to generate alternative solutions. In this instance, Eddie perceived setting fire to his home was his only option to alter his circumstances.

Jason and Phillip provided narratives regarding the '*responses of services to the first act*'. This highlighted, to some extent, where the emerging relationship between the first act of firesetting and repeated firesetting behaviours may have been intermittently reinforced. Both described their first fire served its intended purpose as it enabled them to be removed from home environments and achieve desired safety in care.

"Yeah, so I told them that, I want to go into care, then, er, er, and then I went into care er, after I told the social services that I wanted to go into care. I stopped setting fires for a while" - Jason

Jason offers a subtle interpretation that once in care his firesetting behaviours ceased '*for a while*' and conveys a sense that firesetting was effective, at least in the short term, and successful in eliciting support from external others. Both Jason and Phillip's experience of

being taken into care may have established a belief that fire summons services who then offer protection from unmanageable situations. It appears Robert's narrative also conveyed a similar belief. His first experience of setting fires was with his sister. However, the underlying commonality in his narrative is the perception of firesetting as a means to elicit help from services in order to escape an abusive environment.

"My dad was kicking me out on the street, kicking me and my mom out on the street and, er, my oldest sister set fires. I was with her on every single, like, every single job she done, but like, I was only young I was only about twelve and I was led into that with her... she set a fire just to go back to prison, cus you can't get sent back to prison unless you commit a crime, she did it to get out, that, that, that's what she wanted really, she wanted to go to jail. In the end she got Lified off" - Robert

Robert's commentary creates an image that firesetting was modelled to him as the ultimate way to influence the attainment of desired security. It appears Robert observed firesetting attracted help and provided security; a belief which was perhaps reinforced when his sister achieved her personal goal of receiving a life sentence.

Following their first fire Jason, Robert, Phillip, Francis, and Daniel, reported they had stopped setting fires in the short term. However in contrast, Bruce and Eddie identified their first act had not enabled them to reach a desired outcome and as a consequence further acts of firesetting occurred in quick succession. Bruce described he had lived in care and had set his first fire in the kitchen of his Children's Home when he was 11 years old. He

described he was being bullied and sexually abused by staff and had perceived that firesetting would enable him a 'way out':

"I didn't like it there, I was getting bullied and there was other stuff going on between that, with sexual abuse. So I thought the way out of it was to set a fire in the kitchen. Didn't help... I said, 'I set the fire because I wanted out of here. And you lot weren't listening'. And that's the reason why I did it, but no one listened, so that, that was when I set more fires, in the garage, in the corridor, in a dorm I think" - Bruce

When Bruce provides this account he expresses the function of his fire was to influence his move from the Children's Home following his experiences of extra-familial sexual abuse. His narrative indicates firesetting initially attracted attention and enabled him to express his distress to staff, however, Bruce perceived no further action was taken and described escalating the frequency of his firesetting behaviours to elicit further support. Eddie conveyed similar meaning making in his narrative and expressed that his first act had enabled temporary removal from his home environment after being arrested and spending a night in police custody. However, when he was returned on bail to his home a further act of firesetting occurred within two days.

"So they took me to the police station and questioned me and whatever and it was very hard, and you know, and I kept saying, 'I want to get out of the relationship and that was the only way of getting out of it'. So, I was kept in the cells overnight and then I was released the next day back to reside at that address again, I was thinking it hasn't worked I haven't got away from her. I didn't want to go back and that was the problem, erm, and

then, like, two days after, I set another fire... The same living room, erm, I was arrested again, they said you're back again, right, right we're gonna keep you for longer now, and I thought well that's good, I'm away from her, so I was relieved at the time" - Eddie

Following the first act of firesetting, both Bruce and Eddie had attracted the attention of services, but neither had achieved the outcomes they had sought. Within their meaning making there is a sense that both had set further fires in the belief this would instigate action from services despite the first act being unsuccessful. It seems that the temporary acknowledgment by services to the distress of Bruce and Eddie provided at least short-term relief of their negative emotional states and perhaps served as powerful reinforcement that firesetting would enable future support.

Francis and Daniel identified that their first firesetting act had served to dampen their experience of distress and enabled *'positive emotional responses to the first act'*. Francis described his emotional experience immediately after he had set fire to tyres in a neighbour's garden.

"It went down a bit {anger}, it was still there a bit. It was exciting, watching the flames. Then, the fire brigade come, they had the blue lights flashing, I was excited. They called the police and I got a caution, they wasn't too pleased, they said 'Don't do it again'"
- Francis

When Francis describes his emotional response it appears that firesetting was powerful in reducing his anger and creating excitement. His narrative suggests this process

occurred as a consequence of a heightened sensory experience provided by the fire itself and the presence of the emergency services. The lack of any significant legal consequences following the act may have further contributed to a positive experience of firesetting or at least not provided an aversive experience.

For Daniel, his first experience of firesetting occurred at the age of eighteen when he had observed a group of unknown youths setting fire to a car and described feelings of *'excitement, 'happiness'* and *'joy'* in response to watching the fire burn. For Francis and Daniel it seems that observing fire was powerful in negating distressing emotions and evoking an intensely pleasurable experience.

Super-ordinate theme 2: Firesetting to escape distress

This super-ordinate theme explores participants' narratives regarding their repeat acts of firesetting. It details the pertinent emotional experiences of participant's prior to fire-related behaviours and includes interpretations that firesetting was experienced as a solution to rid the self of negative emotion. Whilst the claims of participants prior to firesetting acts were idiosyncratic, there was commonality in their emotional experience of becoming overwhelmed and feeling unable to cope. Some participants also described engaging in a repertoire of co-morbid behaviours alongside firesetting which emerged as attempts to further cope with unmanageable emotions. Behaviours reported by participants included substance misuse and risk taking behaviours.

Participants identified firesetting had sometimes occurred as a reaction to feeling overwhelmed by feelings of '*pressure and depression*'. This was often described in relation to feeling unable to manage with the demands of daily living alongside feeling unable to cope with overwhelming negative emotions. Robert described one act of firesetting had occurred in the context of consuming large amounts of alcohol on a daily basis to mediate feelings of pressure and depressed mood. In his narrative he described feeling unable to cope and had set a fire in his home with the intention of committing suicide:

"I set fire to the settee and I just sat on it... I was just drinking heavily and err, I didn't know where to turn, I didn't know what to do, it's this and that, I've got all this pressure, I'm missing my children, my son got took in care, I had a big bust up with my mum, and then things got, like, on top of me, and, and, erm, I was upset and sad, erm, I was

sad and scared, that's why I set fire to my house. Basically I wanted to end my life at that time, basically to kill myself, erm, a, basically it was just a cry for help really" – Robert

When Robert provides this narrative he conveys overwhelming desperation and confusion about how to manage feelings of loss, fear and low mood. There is a sense that Robert had relied upon excessive alcohol use as a coping strategy, however, it appears this served to exacerbate his distress and compounded his ability to think rationally. He clearly articulates a number of key precursors to his firesetting act and it seems these accumulated to a crisis point where he intended to commit suicide. Whilst the individual stressors were different, Eddie too described significant alcohol use, pressure, depressed mood and setting a fire with the specific intention of ending his life.

The feelings of '*isolation and desperation*' were commonly identified by most participants as significant precursors to some of their firesetting acts. Jason described that whilst in care he had stopped firesetting for '*a while*' however, when he experienced abuse-related intrusions he re-engaged in firesetting behaviours in order to manage feeling overwhelmed:

"I still had sexual abuse on my mind, so I had no chance and I didn't think no one cared for me, you don't feel like no one's out there, and no one wants to listen to ya, so you feel all alone. In the end they {Social Services} did find out what's the matter with me, but, but, it was too difficult to deal with, so, so from then it's just on my mind all the time... I just went crazy. I was mixing, basically with alcohol, with drugs. I got into more fires and I got

into drugs and er, alcohol, and er, climbing roofs. I was doing bigger things, trying bigger things, I, I was trying to look for bigger things to burn until I get caught really bad” – Jason

When Jason expresses this emotional experience he conveys a sense that, much like his abuse experience, he felt powerless in response to trauma memories which pervaded his life. His narrative evokes a sense of isolation and desperation, in which substance misuse, risky behaviours and firesetting emerged as repetitive and cyclical behaviours to dampen distress and spur services to offer support. As highlighted by Jason, disclosure of his abuse only served to increase his distress and as a consequence, his firesetting behaviour increased in frequency and magnitude as he perpetually attempted to cope with intense feelings. His firesetting to alert services appears to reflect his hope they would help him escape distress associated with his abusive experiences, perhaps as they had done following his first fire as a child.

Most of the participants also described experiences of ‘*anger and frustration*’ within their experiential claims of some firesetting behaviours. Participants often associated angry feelings with their perception of being ignored or mistreated by perceived powerful others or services. Francis described anger as a salient emotional experience prior to some of his firesetting acts. He provided one example of setting a fire following perceived injustice.

“I set Burger King’s bins on fire... cause I had an argument with the manager of Burger King over a burger that wasn’t done properly, we had an argument, I told him ‘I was going to get my own back on him’, he said ‘It is cooked’, I said ‘no, it’s not because it’s pink

in the middle'. They told me to get out, and, and, then I said I was going to burn his bin. So I went round the back and burnt his two bins" – Francis

Francis' narrative creates a sense that he perceived he had been treated unfairly by the manager and firesetting emerged as an impulsive angry reaction to feeling victimised. For Francis, this closely resembles his first act of firesetting where he set a fire following ongoing incidents of bullying by a neighbour.

Bruce also described feeling mounting anger and frustration each time he was returned to reside in the Children's Home where he was experiencing childhood sexual abuse.

"And that's when I set fire to a big massive school, because of the abuse, the sexual abuse I suffered over them years and years and years. It just wasn't just one person, it was three. So one day I thought 'no, had enough', so I went to the school, got a load of mattresses and set fire to um. I stood there and watched them go up in flames. That was the anger, it's like an inferno, a volcano, it explodes, a volcano explodes and it erupts, and it's like a flame just chucking out, that's the way I feel" - Bruce

When Bruce describes his firesetting he conveys a sense that anger emerged in response to feeling powerless in a situation where he was unable to express choice or exert influence over his environment. His narrative creates a powerful image of pent up anger and aggression and his description of '*chucking out*' of flames seems to represent his use of fire to express his emotional experience. Bruce engaged in many acts of firesetting whilst

resident in the Children's Home, and whilst these acts did not provide him with the contextual changes he desired, it appears he perceived firesetting as an effective behaviour for enabling temporary relief of intense emotion.

Super-ordinate theme 3: Firesetting enables positive emotional experiences

This super-ordinate theme provides participants' meaning making regarding the acquisition of positive emotional experiences during and immediately following firesetting acts. It relates to participants' claims that firesetting enabled feelings of being in control and to experience intense sensory stimulation associated with watching their fires and witnessing the fire brigade arriving at the scene. It appears heightened arousal enabled momentary escapism and temporarily dampened the experience of the enduring distressing antecedents described previously.

Throughout the experiential claims of Jason and Bruce they commonly referred to feelings of '*power and control*' and interpreted the physical magnitude of their fires as symbolic of their competency over negative internal states.

"Fire, it helps you get in control of all these feelings inside, cus your mind's set and you can sit around and just, you know think to yourself this is better... if it's a small fire then it's not that happy, basically, it's like you know, sad, cause you go through different fires so sad, frustrated, yeah, if its small it's sad but the bigger they are it gets exciting, then goes to ecstatic if it's a massive one. Basically, I'd light them then stand around and watch it, cause I find it exciting, cause the noise what it makes and that, and so I used to watch them and then I used to run when I used to hear sirens" - Jason

Within Jason's narrative, he provides a direct interpretation that firesetting helped him to *'feel better'* and gain *'control'* over internal distress. He describes the sensory experiences of the size and sound of the fire as directly associated with the intensity of his positive emotional experience and, whilst firesetting occurred in a context of distress, there is a sense this enabled temporary feelings of gratification. Bruce also described achieving feelings of control and excitement from firesetting:

"Setting fires gives me that control. No one's doing it, I'm doing it myself. No one's telling me to do it... So that was only a small one. This one was a big one, and, that excited me even more, the flames and everything about it. I got a buzz out of it, I was transfixed on them flames. It was so powerful... It's really hard to explain, when I was watching it, it, er, it turned me on, a sexual arousal by doing it, by watching it. I was there, lying on the floor masturbating to the flames, that's what got me going. Because it was them flames and the crackling of the fire and all that" - Bruce

In this account, Bruce conveys a sense of fulfilment in making an autonomous decision to set fires. He refers to the size, sight, and sound of the flames as *'powerful'* in intensifying positive feelings and this appears significant for Bruce in generating emotional experiences of accomplishment. Bruce's description of becoming sexually aroused and masturbating to the sound and sight of the flames was a consistent feature in all of his firesetting acts, and perhaps suggests that firesetting and masturbation become mutually reinforced as behaviours to enable positive emotions over prevailing internal turmoil.

For most of the participants the ‘*sensory stimulation*’ they experienced during and immediately following firesetting acts was powerful in evoking a pleasurable experience. For Phillip, Daniel, and Francis the arrival of the fire brigade was a fundamental aspect of achieving positive affect in the context of momentarily escaping ongoing distressing antecedents. Each described how they had chosen to remain within a short distance of the fires they had set in order to watch the fire brigade at work.

“I stand, I stand and watch the fire engines putting it out, I just watch em... I love, I love to see the fire engines coming out to put the fires out... All of it, the sound, the speed” - Phillip

Phillip was emphatic when he articulated his ‘*love*’ of seeing the fire engines and associated this with his sensory experiences of the sound and the speed at which they arrived at the scene. Daniel and Francis also reported sensory stimulation associated with the sight, colour and sound of fire engines.

“Seeing the fire engines. It was alright, I was happy. Excited watching it. The lights. The noise. It made me more happy, more excited” – Daniel

Within this excerpt Daniel makes reference to being ‘*more happy and more excited*’. This seems to suggest that Daniel was already experiencing heightened sensory arousal, perhaps from the fire itself, and the sight of the fire engines intensified his emotional experience further. Within Francis’ meaning making of firesetting he frequently referred to the sight of fire engines as central to his fire-related acts.

“They {fire brigade} put the fire out. I lit another one in the neighbour’s bin. Then I kept going down the street. I set about five so they would come back... They had the blue lights flashing, I was excited, it’s the bit I liked. It was the colour of the fire engine and the lights. It was exciting seeing them doing work. I was feeling like I wanted them to be out more often, I wanted to see them” - Francis

Francis identifies that he set a number of fires in quick succession in order for the fire brigade to return. His interpretation conveys a sense that once the fire brigade left, he had felt almost compelled to set another fire in order to further re-experience intense sensory stimulation. Within his experiential claims, Francis also reported making hoax calls to the emergency services at times when he wanted to negate overwhelming feelings of distress.

Super-ordinate theme 4: Firesetting to communicate with Services

This super-ordinate theme was evident, to varying degrees, from the first act of firesetting and concerns participants' meaning making of firesetting as an attempt to either seek emotional containment from professional services or as an attempt to communicate dissatisfaction at the decisions made by services. Throughout their narratives participants conveyed a sense of struggle between their feelings of vulnerability and perceived inability to communicate their needs with services. It seems in some cases, firesetting occurred when participants sought to receive help, however were unable to identify ways to achieve this.

Participants described *'feeling unable to manage alone'* in their daily life and described firesetting had occurred as they strived to convey this to services. Robert and Eddie described that following a previous act of firesetting they had both received probation orders which had enabled them to receive support from a variety of professionals. Both provided different experiential claims as to why their support had been removed, however the commonality in their narratives was their sense of feeling unable to cope without support and setting a fire as an attempt to communicate this to services.

Robert explained that the removal of services had occurred following a conversation initiated by him. He recalled that he had informed probation services he felt under pressure to maintain his job role and attend appointments at an outpatient's psychiatry clinic. Robert stated that as a consequence of this conversation he was discharged from probation. It appears that whilst this relieved feeling pressure in the short term, Robert quickly began to feel overwhelmed.

“I was on probation, probation order for psychiatric treatment, and, erm, I, I got found a job by the dole. But then it was too much, so, I went down to probation services, I said ‘I can’t come here right, to do, to do, to go and see the doctor and go to work at the same time’. Then my probation officer erm, erm, asked me to come into probation services and they discharge me! And then things got like, on top of me, and I set this fire. I was scared that I weren’t going to get any help... I wanted to get admitted to hospital, that’s what I thought, so basically, they could treat me for depression. I weren’t expecting to go down this sentence I weren’t expecting to go down, I was expecting right to get another chance if you get what I mean, I was expecting right to get another probation order, when I get psychiatric help again, talking to a doctor, but that weren’t the option” - Robert

In this narrative Robert conveys a sense that he felt limited in his capacity to cope with feelings of pressure and despite being aware of needing help he was fearful that he would not get this; in this context it appears that he was unable to identify pro-social ways to access help. It seems Robert believed that as he had received help following a previous incident of firesetting, a further fire would enable him to re-engage with services and receive help for his depression. Robert’s narrative evokes a sense that sentencing came as a shock to him. It appears that whilst Robert had anticipated the receipt of help from services, the thought that he would receive detention for his actions had not occurred to him.

Similarly, Eddie described that following withdrawal of support from Mencap and the Probation Service, he too began experiencing difficulties coping and managing alone.

“So, but when the support and all that was gone and that, I went backwards didn’t I, so, so, I started to get myself vastly into debt. Everything started to go wrong, you know, cause the way I was feeling as well, obviously, that didn’t help with this, with like, losing me support, getting myself into debt, being controlled, um, people trying to rule me {girlfriend}, you know, and basically, I just, I just flipped again. And of course I went rather low and I wasn’t sleeping properly cause of dad dying. I thought if I set the fire I’d get the support again” - Eddie

Here Eddie offers a direct interpretation that he perceived the removal of services as a catalyst to him experiencing difficulties in managing his daily living skills and difficulties in his interpersonal relationship. He provides insight into the struggles he was experiencing at the time of setting a fire and identified that feeling ‘controlled’ in his relationship, bereavement of his father and symptoms associated with depression further impacted on his ability to cope. Eddie’s expression that he had *‘flipped again’* appears to convey that in the context of mounting pressure and lack of support from services he perceived he had lost control. Eddie succinctly describes he believed his act of firesetting would lead to support as it had done before.

Jason also described feeling unable to cope and conveyed that intrusive memories of childhood abuse prompted him to escalate his firesetting behaviour; with the intended aim of attracting the attention of services who would ultimately offer help.

“I set fires, people will start talking, people will start realising that I have problems and this is my main problem. So I’m going to make the fires bigger so more people come

and try and see what, what, you know, what it is, what's wrong. I wanted to say, you know, 'come to me, this is where I am, this is what I'm feeling, this is how I'm feeling and what I'm thinking'... I wanted to be in a place where people can sit down and try and work you out to see what's wrong with ya. And see what's going on up, up in your head, but no one wanted to help me, so I kept on doing it, kept on doing it until er, they realised there was summat up" - Jason

Within this narrative Jason makes a direct interpretation that the function of his firesetting was to achieve both emotional and physical containment from services. It appears Jason perceived services were not responding to him and repeat acts of firesetting occurred as both the intensity of his turmoil and his desire for help increased.

In contrast to seeking help, participants also described firesetting had occurred as a means to demonstrate their '*dissatisfaction with responses from services*' and the decisions made by the services supporting them. Examples provided by participants indicated the function of firesetting was often to change their residency or, exert influence over the decisions made by services about their accommodation.

Daniel reported committing acts of firesetting to escape feeling '*unhappy*' and '*lonely*' in a community learning disability home where he had lived for 12 years. Daniel interpreted the function of his firesetting was '*to get arrested, to not to have to go back*' to the community home. At many different times within his narrative Daniel conveyed intently wanting to live with his brother and described feeling '*angry*' towards his residential service for not '*allowing*' this to happen. Within his experiential claims, it seemed Daniel perceived

firesetting would enable him to live with his sibling and would consequently eliminate overwhelming feelings of unhappiness. Despite previous acts of firesetting, one of which occurred with his brother, Daniel was arrested which he identified had made him *'happy'*. However, he described he was *'always'* returned to live in the environment he attributed to causing his distress and therefore repeated acts of firesetting occurred as he strived to change his living arrangements.

When Phillip shared his experiential claim the commonality in his narrative was his use of firesetting as an attempt to influence service decisions about his care.

"I wanted to move away from the children's home cus I don't wanted to live there. So I set fire to my bedroom carpet, and er, in the bins outside, like, er, I set loads of fires there. I wasn't happy for moving. I'm fed up of moving all the time, they keep moving me to a place, to another like... I told them 'I don't want to live here'. So, I kept setting fires and running away till another manager from another place says 'you can pack your bags you're moving'" - Phillip

In Phillip's excerpt he describes his perception that he had moved within the care system on many occasions and had been unhappy residing in a particular children's home. Within his experiential claims there is a strong sense of conflict in that whilst he was *'fed up of moving'* he also desperately wanted to move another time. In his narrative he indicates that he had expressed his desire to move and when he perceived this had not effected change he had absconded and engaged in repeat firesetting behaviours to communicate his distress. Phillip's interpretation that he continued these behaviours until he was moved to another

home was perhaps powerful in intermittently reinforcing that continued firesetting behaviour was effective for influencing the actions and decisions of services.

Super-ordinate theme 5: The Fire Setters Treatment Programme (FSTP)

This super-ordinate theme presents participant's descriptions of their experiences of completing the Fire Setters Treatment Programme (FSTP). Whilst they were not requested to do so, six of the participants chose to offer their reflections on their therapeutic alliance with facilitators of the FSTP; their perception regarding the dangers of fire following engagement in the FSTP; and their attitudes towards future firesetting behaviours. As the participants had volunteered to share their perspectives, it was felt important to include their claims as it clearly held personal significance to them and their lived experience of firesetting behaviours.

The participants were keen to report their *'therapeutic alliance with the FSTP team'* and their positive emotional experiences of working with the facilitators. What became evident within the narratives of participants was their perception of being *'helped'* and *'supported'* during treatment sessions and by the team more generally. The shared experiential claims of the participants created a strong perception of them feeling contained by the team despite participants experiencing individual challenges in therapy. In light of participants' previous narratives about the difficulties they experienced in engaging with services, their comments infer they felt they had established a sense of trust and security in their relationship with the FSTP team.

"When I started group there was difficult parts but they helped me, they'd, they'd say to me 'what's wrong', they'd take me out the room and tek me into the other room and

they'd say, 'come on what's wrong', I'd say, 'stuff it, I can't be arsed', and whatever, like that, this is my old days, like, you know, they helped me get through that" - Eddie

"The FSTP team is helping me, like, getting your head round things. That's what {facilitator's name} is trying to do now, trying to give me support basically" - Robert

Participants also expressed their '*awareness of the dangers of fire*', which they perceived had developed during participation in the FSTP. It appeared that participants were most struck by learning about the dangers of fire and observing educational videos contained within the programme. Within their narratives it appeared that participants had not previously considered the consequences of firesetting acts for others, particularly the cost to human life.

"Basically, what's been helpful is actually seeing the damage that fire does to people, actually seeing fire brigades going into houses and actually seeing dead bodies burnt, so really it's the realisation what fire can do" - Jason

"They helped me here, to, to see that when I set the fire I was happy, but after, when I was here I felt angry because I was putting the people in danger" - Phillip

The participants also conveyed their current '*attitudes towards future firesetting behaviour*'. Each was emphatic when they expressed they would not set fires in the future and identified their reasons for this was finding other means of gaining positive emotional experiences and the consequences of being detained in custody.

“I won’t do it {firesetting} again. I don’t get excited by it now, because I can find other things that excite me now” - Jason

“How I feel about it {firesetting} erm not a chance, not a chance, that’s how I feel. What do you get out of it, you don’t get nothing out of it, ya just get a, end up getting a, a bad prison sentence” - Robert

DISCUSSION

This qualitative study employed Interpretative Phenomenological Analysis (IPA) to explore the subjective experiences of deliberate firesetting by seven men with mild intellectual disabilities detained in medium and low secure units within one forensic learning disability hospital.

Summary of Main findings

The analysis identified five main super-ordinate themes within the data which reflected a natural interlinked progression in participants' narratives from the significance of the first firesetting event; experiential claims regarding repeat acts of firesetting; and their reflections on engaging in the Fire Setters Treatment Programme (FSTP). Although participants' experiences were idiosyncratic, they described committing firesetting acts in reaction to feelings of overwhelming distress, to achieve positive emotional experiences, and to seek support and containment from various professional services.

In super-ordinate theme 1 'the importance of the first fire' the shared experiential claims of the participants indicated the first act occurred in response to childhood abusive experiences and unfulfilling relationships in young adulthood. The narratives of participants in this study echoed the findings of Kelly et al. (2009) who found historical risk factors for childhood experiences of fire in the backgrounds of men with mild intellectual disabilities.

The participants also conveyed feeling limited in their capacity to influence relationships and social circumstances via pro-social means and appeared to make sense of

their first fire as an attempt to effect change in distressing situations. The shared claims of the participants also suggested the responses they received from authority figures and the emergency services may have contributed in establishing beliefs regarding the function of fire; that firesetting at times, enabled varying degrees of support from professional services. These findings offer support to the findings of Kelly et al. (2009) who found a historical risk factor for fire-related behaviours by male firesetters with mild intellectual disabilities was a perceived inability to change aspects of a situation or their social environment.

From the claims of the participants it seems their first experience of firesetting laid the foundation for a trajectory of firesetting beliefs which became interwoven within recurrent episodes of firesetting behaviour. This was reflected in super-ordinate theme 2 ‘firesetting to escape distress’ which indicated repeat acts of firesetting resonated, to some degree, the emotional, contextual, and functional aspects of the first fire-related experience. From participants’ experiential claims it was apparent that repeat firesetting emerged within a context of trying to escape enduring distress associated with feelings of pressure, depression, isolation, desperation, anger and frustration.

For some participants firesetting also featured alongside substance misuse and appeared to reflect a further behavioural attempt to mediate overwhelming distress. Previous studies have highlighted the predominance of negative emotional states experienced by people with mild intellectual disabilities prior to firesetting acts to include sadness, depression and anger (Clare et al. 1992; Murphy & Clare 1996). Murphy & Clare (1996) also identified the presence of auditory hallucinations as a precursor to firesetting for one

man with mild intellectual disability; however, none of the participants in this study disclosed experiences of this type.

Participants' claims regarding 'firesetting and positive emotional experiences' were highlighted in super-ordinate theme 3. Participants' narratives indicated that during and immediately following firesetting acts they experienced feelings of control and sensory stimulation, which enabled momentary escape from enduring negative emotions and overwhelming situations. It is likely the effect of temporary yet intense positive emotions would have dampened the negative emotional antecedents experienced by participants. This perhaps lends further support to the notion that from the first act, participants developed a belief that firesetting enabled the acquisition of positive outcomes, albeit temporarily, and served to intermittently reinforce and maintain future firesetting as an effective behaviour for escaping feelings of distress and powerlessness. As none of the previous studies regarding firesetting by people with mild intellectual disabilities have specifically identified the positive emotional experiences of fire for their participants; the finding in this study offers valuable insight into potential sources of emotional reinforcement of repeat firesetting behaviours.

In super-ordinate theme 4 'firesetting to communicate with services' some participants described feeling unable to manage their daily life experiences, whilst others described feeling dissatisfied with their living arrangements. There was a strong sense that participants experienced feelings of powerlessness and a lack of agency to exert influence within their lives. This lends support to the findings of Kelly et al. (2009) who found that men with mild intellectual disabilities often presented with an 'external locus of control',

‘low confidence in dealing with conflict’ and/or ‘avoidance of confrontation’. It appears the participants in this study may have also exhibited behaviours associated with these traits, in that, an ‘external locus of control’ may reflect participants’ firesetting as a means to prompt support from external others i.e. professional services, and avoidance of perceived conflict or confrontation by using firesetting as a means to sway decisions made by services.

In reflecting upon their firesetting journey some participants chose to offer their experiential claims regarding engagement in ‘The Fire Setters Treatment Programme (FSTP)’. These narratives were presented in super-ordinate theme 5 and conveyed participants’ meaning making regarding their positive therapeutic alliances with the FSTP team; their developed understanding regarding the dangerousness of fire; and their perspectives that they would not engage in future acts of firesetting. None of the previous research in the field has reported the perspectives of their participants following engagement in firesetter treatment and therefore this theme provides initial insight into the experiences of this group.

Clinical Implications

This study indicated that participants’ first act of firesetting often occurred in relation to childhood abuse or difficulties in interpersonal relationships, with repeats acts reflecting their attempts to cope with pervasive negative emotional states and to attract the attention of supportive professionals. This emphasises the necessity for community services to actively work with individuals to identify emerging difficulties and the importance of implementing collaborative preventative strategies with families and care systems to reduce firesetting risk in children and young people.

Based upon the narratives of the participants, it also appears important for community services to provide a corroborative multi-agency approach to identifying and supporting individuals at risk of future fire-related behaviours. This would involve working directly with individuals following their first fire act; thus, enabling clinicians to complete a functional assessment of firesetting behaviour; to identify risk factors associated with future firesetting; and enable early implementation of community-based treatment approaches. Early intervention would benefit from combining fire-related psycho-educational programmes about the dangers and impact of fire; and therapeutic interventions focusing on risk reduction strategies such as developing pro-social coping strategies and appropriate means for communicating distress to others.

Methodological Considerations

The current study contributes to the existing evidence base by further developing our clinical understanding regarding the lived experiences of a sample of men with mild intellectual disabilities and offers insight into the intricate interplay between why some firesetting behaviours emerge and how they are maintained. More generally, the study also offers support to the utility of IPA methodology with offenders with mild intellectual disabilities.

There are also a number of methodological issues which should be considered when interpreting the findings of this study. Firstly, as the study utilised an IPA methodology the sample was purposively selected from one forensic learning disability hospital. Whilst this fits with the recommendations of IPA regarding the homogeneity of the sample, the generalisability of the study findings is limited by the small sample size and the context in

which the study took place. It is also plausible that as the participants were completing or had completed the Fire Setters Treatment Programme (FSTP), their individual interpretations may have reflected, to some degree, the content and meaning making of firesetting as proposed by the intervention. This may further limit the transferability of the study findings, as individuals who have completed firesetter treatment within other services may hold different meaning making dependent on the type of intervention they receive and the setting in which it is delivered.

Secondly, as the participants had mild intellectual disabilities their experiential claims and meaning making was, at times, fragmented and limited by individual cognitive deficits, communication difficulties and some participants reduced ability to describe and reflect upon their emotional experiences. This impacted upon the level of explanation that could be assigned to participants' idiosyncratic understanding of their fire-related behaviours. This presented a challenge when trying to provide a balance between participants' experiential claims and interpretation of their meaning making. Despite these challenges, the themes identified reflect the narratives of the sample and therefore provide insight into the firesetting behaviour as experienced by the firesetters recruited into this study.

Thirdly, as inherent in all qualitative research, the interpretations provided are based upon the reflexivity of the researcher and therefore it is possible that other researchers may hold different perspectives regarding the experiential claims and salient emotional experiences of the participants. To minimise this source of bias the themes were credibility

and validity checked by others and a reflexive diary was maintained by the researcher to 'bracket off' prior perspectives of firesetting behaviour.

Finally, the issue of sampling bias is an important consideration. Whilst the sample were informed on several occasions that participation would not effect their treatment or care, it is possible they may have agreed to participate in the study as they felt they were expected to do so. Alternatively, the study findings indicated this group of participants often felt ignored by services, and therefore participation may have enabled a sense of mastery in being able to express their emotional experiences of firesetting to a wider audience. This was in fact expressed by one participant who described agreeing to participate in order to explain firesetting as *"people who haven't done fires before don't understand. All these people say 'yeah, we know', but they don't, that's the problem, they don't know what it's like and what the experience is like"* - Bruce.

Future Research

Based on the experiential claims of participants in this study, a number of future research opportunities have been identified. The present study could be replicated with children, young people and women with intellectual disabilities; firesetters who have not yet engaged in therapy; and those with average or above intellectual functioning. Recruiting samples from a variety of community services, prisons and secure services may also identify differences or similarities in the meaning making of firesetting behaviours based upon the context in which engagement with services has occurred. This would enable further understanding of the experiential claims of firesetters and would allow comparison of meaning making across sub-samples of participants and settings. There is further scope in

exploring participants' narratives regarding beliefs about the function of firesetting. This could explore in greater detail if a relationship exists between attachment style, relationships with services and fire-related acts and whether different themes emerge if the first act occurred in childhood or as an adult.

A study to investigate whether there is a relationship between the response of professional services following an act of firesetting and the frequency in which future firesetting behaviours occur may enable community services to identify appropriate methods for responding, supporting and reducing risk for firesetters with intellectual disabilities. Consideration should also be given to exploration of participants' experiences of engagement with professionals and their perceptions of the efficacy of firesetting treatment approaches. This study could be replicated with professionals engaged in delivering therapeutic interventions for firesetters with mild intellectual disabilities. Triangulation of findings from these studies may offer further insight into issues of responsivity, treatment adherence, and professional training needs and may highlight different treatment pathways and options to support timely transition for individuals from secure settings to community services.

Conducting research in these areas could provide pertinent information for developing practice-based firesetter risk assessment methods and standardised treatment interventions in both community services and secure settings. This would further enhance our current understanding of how to best support individuals and further develop our theoretical and clinical understanding of firesetting behaviour. This may go some way

towards bridging the gap between the paucity of current evidence and the actual lived experiences of people with mild intellectual disabilities who set fires.

REFERENCES

- Arcsott, K, Dagnan, D & Kroese, BS 1998, 'Consent to Psychological Research by People with an Intellectual Disability' *Journal of Applied Research in Intellectual Disabilities*, vol. 11, pp. 7783.
- Arson Prevention Bureau 2011. Available from: www.arsonpreventionbureau.org.uk.
- Clare, ICH, Murphy, GH, Cox, D & Chaplin, EH 1992, 'Assessment and treatment of fire-setting: A single-case investigation using a cognitive-behavioural model', *Criminal Behaviour and Mental Health*, vol. 2, pp. 253-268.
- Department of Health 2010, *Making written information easier to understand for people with learning disabilities. Guidance for people who commission or produce Easy Read information*. Available from: <http://odi.dwp.gov.uk/docs/iod/easyreadguidance>. Pdf
- Devapriam, J, Raju, LR, Singh, N, Collacott, R & Bhaumik, S 2007, 'Arson: characteristics and predisposing factors in offenders with intellectual disabilities', *The British Journal of Forensic Practice*, vol. 9, no. 4, pp. 23-27.
- Dickens, G, Sugarman, P, Ahmad, F, Edgar, S, Hofberg, K & Tewari, S 2008, 'Characteristics of low IQ arsonists at psychiatric assessment', *Medicine, Science and the Law*, vol. 48, no. 3. Pp. 217-220.

- Hall, I, Clayton, P & Johnson, P 2005, 'Arson and learning disability' in *The Handbook of Forensic Learning Disabilities*, eds T Riding, C Swann & B. Swann, Radcliffe Publishing, Oxford.
- Kelly, J, Goodwill, AM, Keene, N & Thrift, S 2009, 'A retrospective study of historical risk factors for pathological arson in adults with mild intellectual disabilities' *British Journal of Forensic Practice*, vol. 11, no. 2, pp. 17-23.
- Larkin, M, & Thompson, A 2011, 'Interpretative Phenomenological Analysis' in *Qualitative research methods in mental health and psychotherapy: An introduction for students and practitioners*, eds D Harper, D & A Thompson, Wiley, Oxford.
- Lees-Warley, GT 2013, *Deliberate Firesetting by People with Low Intellectual Functioning*, vol.1. D.Clin.Psy. University of Birmingham. England.
- Murphy, GH & Clare, ICH 1996, 'Analysis of motivation in people with mild learning disabilities (mental handicap) who set fires', *Psychology, Crime & Law*, vol. 2, pp. 153-164.
- National Research Ethics Service 2011, *Information Sheets & Consent Forms. Guidance for Researchers and Reviewers Version 3.6.1*. Available from:
<http://www.nres.npsa.nhs.uk/applications/guidance/consentguidanceandforms/>

- Smith, JA 2004, 'Reflecting on the development of interpretative phenomenological analysis and its contributions to qualitative research in psychology', *Qualitative Research in Psychology*, vol. 1, pp. 39-54.
- Smith, JA, Flowers, P, & Larkin, M 2009, *Interpretive Phenomenological Analysis: Theories, Methods and Research*, Sage: London.
- Taylor, JL, Robertson, A, Thorne, I, Belshaw, T & Watson, A 2006, 'Responses of Female Fire-Setters with Mild and Borderline Intellectual Disabilities to a Group Intervention', *Journal of Applied Research in Intellectual Disabilities*, vol. 19, pp. 179-190.
- Taylor, JL, Thorne, I, Robertson, A & Avery, G 2002, 'Evaluation of a group intervention for convicted arsonists with mild and borderline intellectual disabilities', *Criminal Behaviour and Mental Health*, vol. 12, pp. 282-293.
- Thorne, I & Taylor, JL 1999, *A Treatment Manual for Firesetters with Learning Disabilities*, Northgate & Prudhoe NHS Trust, Morpeth.

Executive Summary

DELIBERATE FIRESETTING BY ADULTS WITH DEVELOPMENTAL DISABILITIES

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Executive Summary

Deliberate firesetting by adults with developmental disabilities

This paper provides an overview of a systematic review and an empirical research study submitted as partial fulfilment for the degree of Doctorate in Psychology, University of Birmingham, UK.

Key terms used in the papers

The terms ‘firesetter’ and ‘firesetting’ are used throughout both papers and refer to acts of ‘deliberate firesetting’ which may not have received criminal charge; and acts of ‘arson’ for which a person has been convicted. The term ‘low intellectual functioning’ is a general term used to describe an Intelligence Quotient (IQ) falling below 85; the term ‘mild intellectual disability’ refers specifically to an IQ falling below 70.

Firesetting in context

In 2011, the Arson Prevention Bureau estimated that each week in the United Kingdom there were 2,213 arson attacks which result in 2 deaths and 53 injuries to people. Damage and destruction was estimated to involve 20 schools and colleges, 262 homes, 360 businesses and public buildings and 1,402 cars. The estimated weekly cost of arson to the economy was £53.8 million.

Firesetting by people with low intellectual functioning

Some authors have suggested that individuals with low intellectual functioning feature more highly in regard to arson than any other group and are twice more likely to

receive lengthier criminal convictions in secure forensic in-patient services when compared to sexual offenders. Despite these assertions, there is limited psychological understanding as to why some people with low intellectual functioning deliberately set fires.

A Systematic Review of the Literature

What does the evidence tell us about adults with low intellectual functioning who deliberately set fires?

The aim of the paper was to systematically examine and integrate existing evidence regarding deliberate firesetting by adults with low intellectual functioning.

A search of the literature was completed in March 2013 which identified twelve papers relating to firesetting by this group. Of the twelve studies, seven reported the characteristics of firesetters with low intellectual functioning and five reported the outcomes of therapeutic firesetting interventions. A quality assessment process was conducted which indicated the papers provided low quality research evidence. A cautious approach to interpreting the evidence was advocated due to small sample sizes and the moderate to high risk of bias associated with study designs.

The findings of the systematic review indicated firesetters with low intellectual functioning were characterised as having evidence of childhood abuse, childhood behavioural problems, childhood mental health difficulties and childhood experiences of fire. They were also observed to have a higher prevalence of interpersonal difficulties, psychiatric diagnoses and Borderline Personality Disorder. The mean age of the first firesetting act was

found to be 22 years in men and 30 years in women and commonly occurred on abandoned wasteland or at the participant's residency.

Common thoughts and feelings experienced by people with low intellectual functioning prior to firesetting acts included; believing that others were not paying attention to their needs; a perceived inability to effect change in their social circumstances; anger; depression; anxiety; excitement at fire; and auditory hallucinations. Following firesetting, common perceptions and emotions included; increased social attention; reduced anger; reduced feelings of boredom and a reduction in auditory hallucinations.

The treatment approaches employed with firesetters with low intellectual functioning included social skills training and individual and group-work cognitive-behavioural programmes. The studies indicated varying levels of success in reducing risk factors for firesetters with low intellectual functioning and suggested that treatment needs of male and female firesetters may differ. The specific components which contributed to reducing risk and recidivism remained unclear and inconclusive.

The overall findings of the review indicated that there is no conclusive evidence to indicate whether differences exist between firesetters with low intellectual functioning and those with average or above intelligence. Future research would benefit from robust research designs which are longitudinal and employ larger and more diverse control groups.

The Empirical Paper

Firesetting by men with mild intellectual disabilities:

A qualitative study of the person's experience

This study used a method called Interpretative Phenomenological Analysis (IPA) to explore and interpret the stories of deliberate firesetting by seven men with mild intellectual disabilities detained in medium and low secure units based in one forensic learning disability hospital. To understand the firesetting experiences of this group, a standardised interview was conducted with each individual in a private room in the hospital. This was so people felt comfortable in sharing their meaning making and were free to talk about their unique experiences of fire-related acts.

In total five main themes emerged from analysis of the men's stories and revealed that they had made sense of their firesetting behaviour as a journey from the first fire act through to engagement in a Fire Setters Treatment Programme. Throughout the analysis it seemed apparent that strands of the men's understanding about their first fire-related act were interwoven within their stories of repeated firesetting behaviours. This was reflected in the structure of their experiential claims.

In the first theme 'The importance of the first fire' the men presented their first-fire related act as occurring in response to childhood abusive experiences and difficulties in interpersonal relationships in young adulthood. They expressed firesetting reflected their attempts to elicit help from authority figures and services: some men perceived that services

had responded to their distress by removing them from their distressing situations, whilst others perceived services had ignored their attempts to communicate their distress.

The following three themes presented the men's meaning making of their repeat acts of firesetting behaviours. Theme two 'Firesetting to escape distress' reflected their understanding that firesetting was to escape from overwhelming negative feelings of pressure, depression, isolation, desperation, anger and frustration. Theme three 'Firesetting enables positive emotional experiences' conveyed the men's experiences that during and immediately following some firesetting acts they experienced feelings of control and power and intense sensory stimulation. This was experienced either from watching their fires and/or witnessing the emergency services at work. Theme four concerned the men's meaning making that repeat acts of firesetting sometimes reflected their attempts 'To communicate with services' with the aim of achieving emotional and physical containment.

In the fifth theme the men shared their experiences of engaging in 'The Fire Setters Treatment Programme (FSTP)' and talked about their positive therapeutic relationships with the FSTP team, the development in their awareness regarding the dangers of fire, and their thoughts about committing future acts of firesetting.

The clinical recommendations highlighted within this study indicated the necessity for community services to provide a corroborative multi-agency approach to identifying and supporting individuals with mild intellectual disabilities at risk of fire-related behaviours. Secondly, the provision of early intervention in the community would benefit from combining fire-related psycho-educational programmes about the dangers and impact of fire

with therapeutic interventions focused on developing ways to cope with distress and how to appropriately communicate negative feelings to others.

The study contributes to the existing evidence base by developing clinical understanding of the experiences of men with mild intellectual disabilities who set fires and offers insight into why some firesetting behaviours emerge and how they are maintained. Future research studies are required to developing firesetter risk assessment methods and treatment interventions in both community services and secure settings.

Reference

Arson Prevention Bureau 2011. Available from: www.arsonpreventionbureau.org.uk.

Dissemination Document for Participants

WHY PEOPLE SET FIRES?

Gemma T. Lees-Warley

School of Psychology

University of Birmingham

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Birmingham,
B15 2TT

Dissemination Document for Participants

In discussion with my research supervisor it was determined that, in addition to the executive summary, a dissemination document would be produced for the participants who volunteered to take part in the empirical study. The paper was constructed in accordance with the Department of Health guidance 'Making written information easier to understand for people with learning disabilities' (2010) and followed the style and format of the participant information sheet and the consent form. This was deemed appropriate as it maintained consistency with the previous documents provided to participants and served as a visual reminder of their participation in the study.

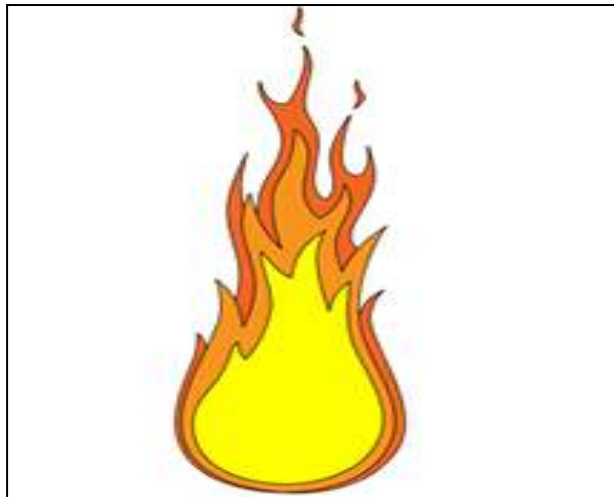
The dissemination document will be presented to the participant by the clinician who was involved during their recruitment into the study. Individuals will be supported to read the information and will be provided with the opportunity to meet with the researcher to discuss the study findings should they wish to do so.

Reference

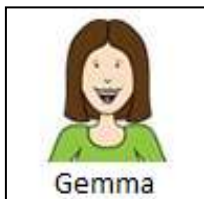
Department of Health 2010, *Making written information easier to understand for people with learning disabilities. Guidance for people who commission or produce Easy Read information*. Available from: <http://odi.dwp.gov.uk/docs/iod/easyreadguidance.Pdf>

For people who took part in the research

why do people set a fire?

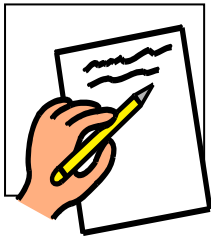


Information



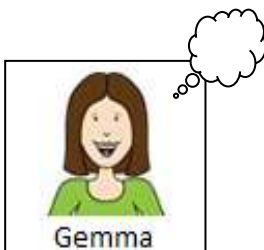
There is a woman called Gemma

Gemma works at Birmingham University



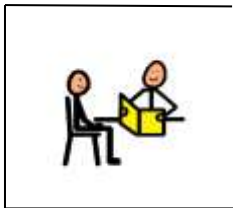
Gemma did some work

This was some research

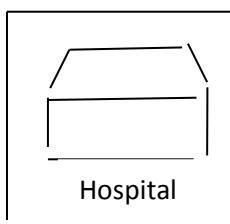


Gemma wanted to know why people set a
fire

Gemma talked to

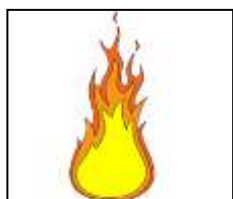


Men



Living at * Hospital

(*Name of participant's research site will be depicted in the image)



Who had set a fire

What did Gemma find out?

People said they set their first fire because



they were unhappy where they lived



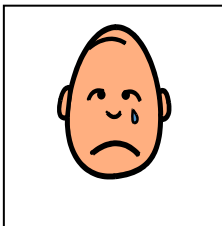
they were unhappy in a relationship



they wanted help

What did Gemma find out?

People said they set more fires because



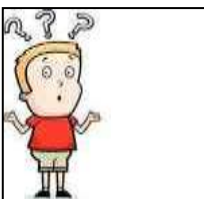
they were sad



they were lonely



they felt angry



they didn't know what to do

What did Gemma find out?

People said when they set a fire



it made them feel happy



it made them feel excited



they liked seeing the fire engines

What did Gemma find out?

People said they kept setting fires because



they wanted support from
Social Services or Probation



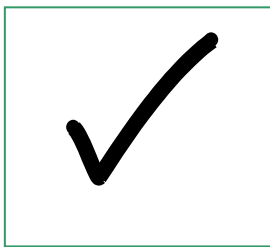
they wanted help to feel happier



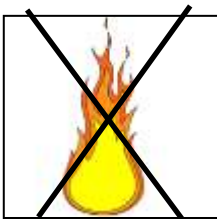
they wanted help to move house

What did Gemma find out?

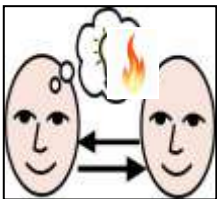
People talked about the FSTP. They said



FTSP had helped them



they learnt fire is dangerous



they liked working with FSTP staff

FSTP staff listened and helped

What did Gemma find out?

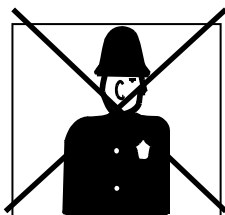
People said they won't set another fire because



they know its dangerous

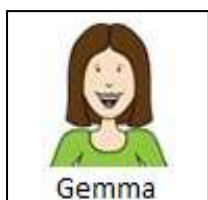


they don't want to hurt people



they don't want to get into trouble

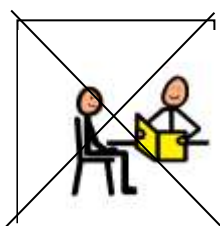
Message from Gemma



Gemma is happy people wanted to
talk about their firesetting



Gemma said thank you for telling her
your story



Gemma won't need to come to talk to
you again

What next

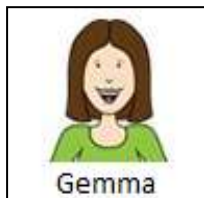


You can keep this booklet in case you
want to read it again



A booklet will be in your file
you can ask to see it

What if I want to ask a question?



You could talk to Gemma about this work



You can ask a member of staff to phone
her



You could talk to *

(*Name provided will be the research collaborator for participant's
site)

You could talk to psychology staff



You can ask a member of staff to phone
them

A thesis submitted in Partial Fulfilment of the Regulations for the degree of
Doctor of Clinical Psychology

VOLUME I
APPENDICES

Gemma T. Lees-Warley

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Appendix 1: Instructions for Authors

Journal of Applied Research in Intellectual Disabilities

Edited by: David Felce and Glynis Murphy

GENERAL

The *Journal of Applied Research in Intellectual Disabilities* is an international, peer-reviewed journal which draws together findings derived from original applied research in intellectual disabilities. The journal is an important forum for the dissemination of ideas to promote valued lifestyles for people with intellectual disabilities. It reports on research from the UK and overseas by authors from all relevant professional disciplines. It is aimed at an international, multi-disciplinary readership.

SUBMISSION OF MANUSCRIPTS

Manuscript Files Accepted

Manuscripts should be uploaded as Word (.doc) or Rich Text Format (.rft) files (not write-protected) plus separate figure files. GIF, JPEG, PICT or Bitmap files are acceptable for submission, but only high-resolution TIF or EPS files are suitable for printing. Please note that any manuscripts uploaded as Word 2007 (.docx) will be automatically rejected. Please save any .docx files as .doc before uploading.

Blinded Review

All articles submitted to the journal are assessed by at least two anonymous reviewers with expertise in that field. The Editors reserve the right to edit any contribution to ensure that it conforms to the requirements of the journal.

MANUSCRIPT TYPES ACCEPTED

Original Articles, *Review Articles*, *Brief Reports*, *Book Reviews* and *Letters to the Editor* are accepted. *Theoretical Papers* are also considered provided the implications for therapeutic action or enhancing quality of life are clear. Both quantitative and qualitative methodologies are welcomed. Articles are accepted for publication only at the discretion of the Editor.

MANUSCRIPT FORMAT AND STRUCTURE

Format

Language: The language of publication is English. Authors for whom English is a second language must have their manuscript professionally edited by an English speaking person before submission to make sure the English is of high quality. It is preferred that manuscripts are professionally edited. All services are paid for and arranged by the author, and use of one of these services does not guarantee acceptance or preference for publication.

Structure

All manuscripts submitted to the *Journal of Applied Research in Intellectual Disabilities* should include:

Cover Page: A cover page should contain only the title, thereby facilitating anonymous reviewing. The authors' details should be supplied on a separate page and the author for correspondence should be identified clearly, along with full contact details, including e-mail

address.

Running Title: A short title of not more than fifty characters, including spaces, should be provided.

Keywords: Up to six key words to aid indexing should also be provided.

Main Text: All papers should be divided into a structured summary (150 words) and the main text with appropriate sub headings. A structured summary should be given at the beginning of each article, incorporating the following headings: Background, Materials and Methods, Results, Conclusions. These should outline the questions investigated, the design, essential findings and main conclusions of the study. The text should proceed through sections of Abstract, Introduction, Materials and Methods, Results and Discussion, and finally Tables. Figures should be submitted as a separate file.

Style: Manuscripts should be formatted with a wide margin and double spaced. Include all parts of the text of the paper in a single file, but do not embed figures. Please note the following points which will help us to process your manuscript successfully:

- Include all figure legends, and tables with their legends if available.
- Do not use the carriage return (enter) at the end of lines within a paragraph.
- Turn the hyphenation option off.
- In the cover email, specify special characters used to represent non-keyboard characters.
- Use a tab, not spaces, to separate data points in tables.
- If you use a table editor function, each data point should be contained within a unique cell

Spelling should conform to *The Concise Oxford Dictionary of Current English* and units of measurements, symbols and abbreviations with those in *Units, Symbols and Abbreviations* (1977) published and supplied by the Royal Society of Medicine, 1 Wimpole Street, London W1M 8AE.

References

The reference list should be in alphabetic order.

Journal titles should be in full. References in text with more than two authors should be abbreviated to (Brown *et al.* 1977). Authors are responsible for the accuracy of their references.

Tables, Figures and Figure Legends

Tables should include only essential data. Each table must be typewritten on a separate sheet and should be numbered consecutively with Arabic numerals, e.g. Table 1, and given a short caption. Figures should be referred to in the text as Figures using Arabic numbers, e.g. Fig.1, Fig.2 etc, in order of appearance.

Appendix 2: Methodological Quality Checklist (Downs & Black 1997)

Quality Criteria		Scoring Guidelines		
Reporting		Yes	No	
1.	Clear description of hypothesis / aims	1	0	
2.	Main outcomes to be measured reported	1	0	
3.	Characteristics of sample clearly reported	1	0	
4.	Intervention clearly reported	1	0	
5.	Principle confounders reported ¹	2	*1	0 (*partial)
6.	Findings clearly reported	1	0	
7.	Estimates of random variability provided	1	0	
8.	Adverse events as consequence of intervention reported	1	0	
9.	Details of participants lost to follow-up reported	1	0	
10.	Actual probability values reported e.g. 0.035 not<0.05	1	0	
		Yes	No	Unable to determine
External Validity				
11.	Sample representative of population	1	0	0
12.	Participation representative of population	1	0	0
13.	Ecological validity of intervention	1	0	0
Internal Validity - Bias				
14.	Attempt to blind subjects to intervention received	1	0	0
15.	Attempt to blind those measuring main outcomes	1	0	0
16.	No unplanned statistical analysis	1	0	0
17.	Adjustment for different lengths of follow-up	1	0	0
18.	Appropriateness of statistical analysis	1	0	0
19.	Compliance with intervention reliable	1	0	0
20.	Outcome measures accurate (reliable and valid)	1	0	0
Internal Validity – Confounding (selection bias)				
21.	Participants recruited from same population	1	0	0
22.	Participants recruited over same period of time	1	0	0
23.	Participants randomised to intervention groups	1	0	0
24.	Randomisation concealed to participants	1	0	0
25.	Adjustment for confounding variables	1	0	0
26.	Losses of patients to follow-up accounted for	1	0	0
Power				
27.	Sufficient power to detect clinically significant effect	1	0	0

¹ Principle confounders reported – Yes (2), Partially (1), No (0)

Appendix 3: Methodological Quality Scores and colour-coded risk of bias ratings

Quality Score	Methodological Quality	Risk of Bias Rating
19-28	Strong Methodological Quality	low risk of bias
10-18	Intermediate Methodological Quality	moderate risk of bias
0-9	Weak Methodological Quality	high risk of bias

Appendix 4: NICE (2005) Guidance for Assigning Level of Evidence Ratings

Type of evidence	Level of evidence
High-quality meta-analyses, systematic reviews of RCTs, or RCTs with a very low risk of bias	1++
Well-conducted meta-analyses, systematic reviews of RCTs, or RCTs with a low risk of bias	1+
Meta-analyses, systematic reviews of RCTs, or RCTs with a moderate/high risk of bias	1–
High-quality systematic reviews of case–control or cohort studies. High-quality case–control or cohort studies with a very low risk of confounding, bias or chance and a high probability that the relationship is causal	2++
Well-conducted case–control or cohort studies with a low risk of confounding, bias or chance and a moderate probability that the relationship is causal	2+
Case–control or cohort studies with a moderate/high risk of confounding bias, or chance and a significant risk that the relationship is not causal*	2–
Non-analytic studies (for example, case reports, case series) *	3–
Expert opinion, formal consensus*	4–

Appendix 5: Results of Electronic Database Searches

Descriptors & Electronic Databases	<u>Search</u> Firesetting	<u>Search</u> Intellectual Functioning	<u>Combine</u> <u>Search</u> Firesetting & Intellectual Functioning	<u>Stage 1</u> Duplicate references	<u>Stage 2</u> Abstract: Fulfil Exclusion	<u>Stage 2</u> Abstract: Fulfil Inclusion	<u>Stage 3</u> Full text – Fulfil Criteria
PsycINFO	914	140,497	105	0	87	18	8
Embase	174	175,163	82	2	63	17	3
Ovid Medline	933	128,628	58	0	43	15	2
Web of Science	2,471	161,239	44	0	32	12	5
CINAHL	150	62,334	16	0	14	2	2
<u>TOTAL</u>	6,212	667,861	305	303	239	64	<u>20</u>

Appendix 6: Removal of duplicate papers from 20 identified review studies

Electronic Database	20 papers identified	Duplicate Papers	Remaining papers
PsycINFO	Kelly et al. 2009 Taylor et al. 2006 Devapriam et al. 2007 Lindberg et al. 2005 Hall et al. 2005 Murphy & Clare 1996 Rasanen et al. 1994 Rice & Chaplin 1979		8
Embase & Embase Classic	Taylor et al. 2002 Lindberg et al. 2005 Clare et al. 1992	Duplicate Record	2
Ovid Medline	Lindberg et al. 2005 Taylor et al. 2002	Duplicate Record Duplicate Record	0
Web of Science	Taylor et al. 2006) Taylor et al. 2004 Lindberg et al. 2005 Murphy et al. 1996 Rasanen et al. 1994	Duplicate Record Duplicate Record Duplicate Record Duplicate Record	1
CINAHL	Devapriam et al. 2007 Dickens et al. 2007	Duplicate Record	1
<u>TOTAL NUMBER OF PAPERS INCLUDED IN REVIEW</u>			<u>12</u>

Appendix 7: Characteristics of studies included in the review

Study Details	Study Aims & Study Selection	Participant Characteristics	Intervention & Outcome Measures	Key Findings
<p>Authors/Year: Devapriam et al. 2007</p> <p>Publication: Peer-Review Journal</p> <p>Country: UK</p> <p>Study Type: Retrospective Cohort</p> <p>Setting: NHS Community and inpatient services for people with intellectual disabilities</p>	<p>Study Aims: To examine:</p> <ul style="list-style-type: none"> • Characteristics of arson ID offenders • Range of identified reasons for Index Offence <p>Study selection: Participants selected for treatment:</p> <ul style="list-style-type: none"> • Contact with Psychiatric Hospital within 20 year period • Intellectual Disability • 19 years + • A forensic history • A history of FS 	<ul style="list-style-type: none"> • Total population identified who had accessed services during 20 year period - 1100 patients • 15 / 1100 identified as committing Arson (1.36%) 	<p>Study Outcomes:</p> <ul style="list-style-type: none"> • A data collection tool was used to review and obtain information from medical case notes, in-patient nursing notes and community nursing notes • The tool related to each participants: <ul style="list-style-type: none"> • age • gender • ethnic origin • degree of ID • psychiatric diagnosis (Axis 1) • forensic history (arson and other offences) and reasons for arson • family profile / personal profile and associated factors 	<p>Results: Gender and mean age at first FS:</p> <ul style="list-style-type: none"> • 7 male - 22 yrs; 8 female - 30 yrs <p>Degree of ID:</p> <ul style="list-style-type: none"> • 2 moderate ID; 12 mild ID; 1 borderline functioning <p>Psychiatric diagnosis (Axis 1)</p> <ul style="list-style-type: none"> • 60% had psychiatric diagnosis <p>Forensic history (arson and other) and Reasons for arson:</p> <ul style="list-style-type: none"> • Arson more than once – 8/15 • Other offences – 11/15 • Most common reason - revenge <p>Family and Personal profile:</p> <ul style="list-style-type: none"> • Large family, childhood abuse, childhood behavioural problems, firesetting in the family. • Homelessness, relationship difficulties and unemployment.

Study Details	Study Aims & Study Selection	Participant Characteristics	Intervention & Outcome Measures	Key Findings
<p>Authors/Year: Lindberg et al. 2005</p> <p>Publication: Peer-Review Journal</p> <p>Country: Finland</p> <p>Study Type: Retrospective Cohort</p> <p>Setting: University Hospital Department of Forensic Psychiatry</p>	<p>Study Aims: To characterise:</p> <ul style="list-style-type: none"> • A representative sample of Finnish male arson recidivists by demographics, major psychiatric variables and criminal histories <p>Study selection:</p> <ul style="list-style-type: none"> • Males aged 16+ • Arsonists who underwent forensic psychiatric assessment between 1973 and 1993 • Recidivists (had committed two or more separate acts of arsons prior to assessment) 	<ul style="list-style-type: none"> • 401 case files reviewed • 90 / 401 (22.4%) were classified as arson recidivists • Some participants had been convicted for arson earlier in their criminal careers, some were part of the court process for first time 	<p>Data Collection</p> <ul style="list-style-type: none"> • Review of clinical interviews, observations and psychological testing conducted during a pre-trial psychiatric examination period <p>Study Outcomes:</p> <ul style="list-style-type: none"> • Characteristics of recidivists • Prevalence of six psychiatric variables: <ol style="list-style-type: none"> 1. Mental Retardation 2. Psychosis 3. Personality Disorder 4. Alcoholism 5. Organic Brain Disorder 6. Mood Disorder • Criminal History: Divided into ‘pure arsonists’ (only arson offences) and ‘non-pure arsonists’ (other offences) • Pyromania: Assessed for whole sample using DSM-IV criteria 	<p>Results specific to ID sample:</p> <ul style="list-style-type: none"> • 17.8% (16/90) were mentally retarded (IQ under or 70) • No ID diagnosed as psychotic • 31% (5/16) committed arson under acute alcohol intoxication • Frequency data specific to arson recidivists with ID were not specified for the psychiatric variables Personality Disorder, Organic Brain Disorder or Mood Disorder <p>Pure arsonists(ID)</p> <ul style="list-style-type: none"> • 93.75% (15/16) had only arsons in their criminal history at evaluation ($\chi^2 = 16.483$, df 1, $p = 0.000$) • The median IQ of the pure arsonists (84.5 / range-67–105) was lower non-pure arsonists (101 / range 90–110] <p>Pyromania</p> <ul style="list-style-type: none"> • ID excluded from DSM-IV-TR inclusion criteria for pyromania

Study Details	Study Aims & Study Selection	Participant Characteristics	Intervention & Outcome Measures	Key Findings
<p>Authors/Year: Rasanen et al. 1994</p> <p>Publication: Peer-Review Journal</p> <p>Country: Finland</p> <p>Study Type: Retrospective Cohort</p> <p>Setting: University Hospital of Oulu</p>	<p>Study Aims:</p> <ul style="list-style-type: none"> • To compare the intelligence of arsonists with homicide offenders <p>Study selection: Participants selected for treatment:</p> <ul style="list-style-type: none"> • Received forensic psychiatric examination at the hospital between 1983 and 1993 <p>Excluded from the study:</p> <ul style="list-style-type: none"> • 26 arsonists and 13 homicide offenders • psychological test results defective or person refused test 	<p><i>Total sample size</i> n-128</p> <p><i>Index group</i> 72 Arsonists</p> <ul style="list-style-type: none"> • Male n=62 • Female n=10 • Mean Age: 31.7 years (SD 10.8) <p><i>Control Group</i> 56 homicide offenders</p> <ul style="list-style-type: none"> • Male n=47 • Female n=9 • Mean Age: 39.4 years (SD 16.8) <p>No significant differences were found between the index and control group on age or gender distribution</p>	<p>Study Outcomes: The following variables were recorded:</p> <ul style="list-style-type: none"> • Gender • Intellectual Functioning • IQ and arson behaviour / target <p>IQ classification based on WHO recommendation:</p> <ul style="list-style-type: none"> • IQ 0-67 mental retardation • IQ 68-85 subnormal intelligence • IQ 86-114 normal intelligence • IQ >115 superior intelligence <ul style="list-style-type: none"> • Scored using the Finnish handbook of WAIS. • The test was performed under controlled conditions by one psychologist approximately six months after the alleged crime was committed 	<p>Results:</p> <p>Gender:</p> <ul style="list-style-type: none"> • The FSIQ of female arsonists was lower than that of male arsonists <p>Intellectual Functioning: Arson: Mean FSIQ: 88.7 (SD 17.6);</p> <ul style="list-style-type: none"> • 27 (38%) IQ 68-85 subnormal intelligence; • 8 (11%) 0-67 mental retardation <p>Homicide: Mean FSIQ: 87.1 (SD 13.4)</p> <ul style="list-style-type: none"> • No significant difference in intellectual functioning when comparing the arson and homicide groups <p>IQ and arson type:</p> <ul style="list-style-type: none"> • No significant difference between type of arson behaviour or target of arson and IQ

Study Details	Study Aims & Study Selection	Participant Characteristics	Intervention & Outcome Measures	Key Findings
<p>Authors / Year: Dickens et al. 2007</p> <p>Type of Publication: Peer-Review Journal</p> <p>Country: UK</p> <p>Type of Study: Retrospective Case Control</p> <p>Setting: Regional forensic psychiatry service</p>	<p>Study Aims:</p> <ul style="list-style-type: none"> To examine the difference between people with IQ<85 with those IQ86> following arson <p>Study selection:</p> <ul style="list-style-type: none"> Arsonists referred to the regional forensic psychiatry service over 24-year period 	<ul style="list-style-type: none"> 202 arsonists referred to the psychiatry service 	<p>Data collection:</p> <ul style="list-style-type: none"> Reviewed case study material collected over a 24-year period by psychiatrists in the service <p>Study Outcomes:</p> <ul style="list-style-type: none"> Case notes - quality rated as (good / limited poor) Data collated across six separate domains (101 variables) for IQ-below 85 and IQ above 85 – <ol style="list-style-type: none"> Socio-demographic, family background and childhood factors Adult adjustment Fire setting history Motives Features of pyromania Other offending 	<p>Case Notes:</p> <ul style="list-style-type: none"> Completeness of information of 202 cases 65.8% rated as good; 30.7% limited and 3.5% ‘poor’ <p>Results specific to IQ<85:</p> <ul style="list-style-type: none"> 88/202 (43.6%) assessed as IQ <85 20/40 (50%) of females low IQ 68/162 (42%) of males low IQ Mean age 26 (SD 12.1) Evidence of childhood temperamental disturbance - enuresis, conduct disorder, fighting and criminal damage More likely to be introverted and have significantly higher rate of relationship difficulties Tend to set fires more frequently (less than a month apart) History of repeat purposeful firesetting and more frequently made hoax calls

Study Details	Study Aims & Study Selection	Participant Characteristics	Intervention & Outcome Measures	Key Findings
<p>Authors / Year: Kelly et al. 2009</p> <p>Type of Publication: Peer-Review Journal</p> <p>Country: UK</p> <p>Type of Study: Retrospective Case Control</p> <p>Setting: 2 NHS inpatient forensic services</p>	<p>Study Aims: To examine -</p> <ul style="list-style-type: none"> • Is there a significant association between three historical risk factors for ‘pathological arson’ in ID arsonists (Jackson, 1994) compared to a control group of ID non-arsonist <p>Study selection:</p> <ul style="list-style-type: none"> • Gender • Diagnosis of mild intellectual functioning • Detention under MHA • Forensic History <p>Excluded-no consent</p> <ul style="list-style-type: none"> • 4 ID ‘arsonists’ • 1 ID ‘non-arsonist’ 	<ul style="list-style-type: none"> • 20 adult men with a diagnosis of mild ID • Detained under the MHA (1983) • Recruited from 2 inpatient forensic services <p><i>Experimental Group - ‘pathological arsonist’</i></p> <ul style="list-style-type: none"> • 10 men • Index offence – arson <p><i>Control Group – ‘non-arsonist’</i></p> <ul style="list-style-type: none"> • No recorded offences of arson • None of the participants had a diagnosis of ASD. • One participant in the experimental group had a diagnosis of psychosis - matched in the control group 	<p>Data Collection</p> <ul style="list-style-type: none"> • Data from file information • Risk factors recorded as ‘present’ or ‘not present’ by one researcher • Ratings made on interpretation of assessments and psychiatric psychological reports • Ratings on assessments carried out before or upon admission to secure services <p>Historical Risk Factors: Rated on pre-determined criteria / measures:</p> <ol style="list-style-type: none"> 1. Perceived inability to effect social change 2. Early childhood experiences of fire (0–11 years) 3. Family problems <p>Outcome Measures:</p> <ul style="list-style-type: none"> • Locus of Control Questionnaire • Parental Bonding Instrument • Attachment Style Questionnaire • Family History 	<p>Results: Positive associations between the historical risk factors:</p> <ul style="list-style-type: none"> • Perceived inability to effect social change and firesetting • Childhood experiences of fire and firesetting • Suggests these two risk factors are characteristic of arsonists with ID who have deliberately set a fire <p>No evidence of an association between the risk factor:</p> <ul style="list-style-type: none"> • Family problems and firesetting

Study Details	Study Aims & Study Selection	Participant Characteristics	Intervention & Outcome Measures	Key Findings
<p>Authors/Year: Murphy & Clare 1996</p> <p>Publication: Peer-Review Journal</p> <p>Country: UK</p> <p>Study Type: Non-randomised Case Control</p> <p>Setting: NHS Inpatient Service for people with mild learning disabilities</p>	<p>Study Aim(s): To report and compare outcomes of:</p> <ul style="list-style-type: none"> • An assessment of FS perceptions of events, feelings and cognitions prior to and after firesetting (FAS) • An assessment of ratings of upset / excitement in a series of fire related situations (FIRS) <p>Study selection: Participants selected for treatment:</p> <ul style="list-style-type: none"> • Index group: every person who had set fire(s) out of a consecutive series of people admitted to the service 	<p><i>Index group</i></p> <ul style="list-style-type: none"> • 10 people with mild ID admitted to inpatient service • Detained under MHA (1983) • 7 males / 3 females • Mean Age – 26.4 years (SD 7.5) • Mean WAIS-R FSIQ: 68.4 (SD 5.7) <p><i>Control Group</i> Matched to the index group for age, sex, IQ</p> <ul style="list-style-type: none"> • 10 users of two day centres for people with mild ID • No legal restrictions • 7 males / 3 females • Mean Age – 28.1 (SD 6.9) • Mean WAIS-R FSIQ: 67.7 (SD 8.4) • No firesetting history 	<p>Assessment:</p> <ul style="list-style-type: none"> • Two interviews Firesetting Assessment Schedule (FAS) and The Fire Interest Rating Scale (FIRS) devised by study authors • Based on Jackson et al's (1987) model for arson <p>Outcome Measures:</p> <p><i>Index group</i></p> <ul style="list-style-type: none"> • FAS was completed • FIRS was completed <p>Test-retest reliability (FAS)</p> <ul style="list-style-type: none"> • Interviewed on 2 occasions by the clinical psychologist on their team to establish test-retest reliability of the measures • Time between first and second interview mean of 6.7 months <p><i>Control Group</i></p> <ul style="list-style-type: none"> • FIRS completed as FAS is only appropriate if someone has set a fire 	<p>Results:</p> <p>FAS (Index group) only:</p> <ul style="list-style-type: none"> • Prior to FS, most commonly: anger (6), not being listened (5); sadness (4); boredom (3), anxiety (2); auditory hallucinations (1). • Post FS, most commonly: reduced anger (5); feeling listened to (3); less anxious (2), feeling less bored (2) <p>Test-retest (FAS)</p> <ul style="list-style-type: none"> • Prior events, feelings and cognitions at first and second interviews (n=9 kappa = 0.65) • Consequent events, feelings and cognitions at first and second interviews (n=9 kappa = 0.39) • Participants identified fewer consequent events <p>FIRS (index and control):</p> <ul style="list-style-type: none"> • Index - mean total 49.0 (sd 13.9) • Control – mean total 47.5 (sd 6.8) • Significant difference (p<0.02 on only situation one)

Study Details	Study Aims & Study Selection	Participant Characteristics	Intervention & Outcome Measures	Key Findings
<p>Authors/Year: Rice & Chaplin 1979</p> <p>Publication: Peer-Review Journal</p> <p>Country: USA</p> <p>Study Type: Non-randomised Case Control</p> <p>Setting: Maximum Security Psychiatric Hospital</p>	<p>Study Aim(s):</p> <ul style="list-style-type: none"> • To compare and evaluate social skills training and a control treatment as methods for increasing male arsonist's strategies for coping with anger-provoking interpersonal situations <p>Study selection: Participants selected for treatment based on:</p> <ul style="list-style-type: none"> • Inappropriate firesetting behaviours 	<ul style="list-style-type: none"> • Two groups of five patients selected from two different units <p><i>Group 1</i></p> <ul style="list-style-type: none"> • Average age: 22 years • Average or above in intelligence • All diagnosed as personality disordered • Average of one previous psychiatric hospital admission <p><i>Group 2</i></p> <ul style="list-style-type: none"> • Average age: 32 years • Mild to borderline ID • Three had a primary diagnosis of chronic schizophrenia, one of mental retardation, and one of personality disorder. • Average of five previous psychiatric admissions 	<p>Intervention: 8 sessions</p> <ul style="list-style-type: none"> • Social skills training: rehearsal, modelling, coaching and feedback <p>Control treatment: 8 sessions</p> <ul style="list-style-type: none"> • Non-directive group psychotherapy <p>Outcome Measures:</p> <ul style="list-style-type: none"> • Observational rating scale of role play situations at pre- / mid- / post- testing (15 in total). Rated (extremely inappropriate to very appropriate) on four scales, (a) assertion, (b) empathy, (c) anxiety, and (d) verbal skill by blind raters • Three multiple choice questionnaires (10 questions each) designed to test participants' knowledge of appropriately assertive responses given after each set of pre- / mid- / post-test role-plays. <p>Recidivism:</p> <ul style="list-style-type: none"> • One year follow-up of FS 	<p>Results: Role Play</p> <ul style="list-style-type: none"> • Social skills more effective than the control treatment for improving social skills of hospitalized male arsonists <p>Group 1 –Social skills first:</p> <ul style="list-style-type: none"> • Significant increase in social skill between pre- and mid-testing • No significant difference in social skill mid- and post-testing <p>Group 2 - Control treatment first:</p> <ul style="list-style-type: none"> • No increase in social skills between pre- and mid-testing • Significant increase between pre- and post-testing and mid and post-testing <p>Results: Questionnaire</p> <ul style="list-style-type: none"> • On a written test, results, were not significant, but in the same direction <p>Recidivism:</p> <ul style="list-style-type: none"> • At one year follow-up none of the patients have been involved in FS

Study Details	Study Aims & Study Selection	Participant Characteristics	Intervention & Outcome Measures	Key Findings
<p>Authors/Year: Hall et al. 2005</p> <p>Publication: Book Chapter</p> <p>Country: UK</p> <p>Study Type: Case series (no control)</p> <p>Setting: NHS Medium Secure Forensic Unit</p>	<p>Study Aim:</p> <ul style="list-style-type: none"> • Not specified <p>Study selection:</p> <ul style="list-style-type: none"> • Not specified 	<ul style="list-style-type: none"> • 6 male clients • Age range: 19 to 57 years • Five of six participants aged 31 years or under • Cognitive ability 'classified' as mild and borderline ID 	<p>Intervention</p> <ul style="list-style-type: none"> • 16 sessions of weekly group therapy (broad CBT framework each lasting 90 minutes and two individual sessions) • Emphasis on identifying links between individual's FS and thoughts, feelings and behaviour <p>Outcome Measures: Completed one month pre-group and two occasions post group</p> <ul style="list-style-type: none"> • Background factors: FS history, employment details, substance misuse, self harming behaviour • 'Blame Cake' for Index Offence • 'Risk Swamp' for risk of FS • Fire Interest Rating Scale: FIRS • Fire Assessment Schedule: FAS • Culture-Free Self Esteem Index: (CSFEI) <p>Group follow-up:</p> <ul style="list-style-type: none"> • 2 follow-up sessions - 6 weeks & 6 months after the group 	<p>Results: Background factors:</p> <ul style="list-style-type: none"> • FS against property: 5/6 • Employed at time of FS: 1/6 • Alcohol use at time of FS: 5/6 <p>'Blame Cake' for Index Offence:</p> <ul style="list-style-type: none"> • Pre- and post-group 3/6 ascribed blame for FS to themselves 100% • 1/6 pre-group 100% voices; post-100% self - more responsible • 1/6 pre-group 80% self; post-65% self - less responsible • 1/6 pre-group 50% self; post-50% self – no change <p>'Risk Swamp' for risk of future FS:</p> <ul style="list-style-type: none"> • Post-group 2/6 rated selves as medium risk; 3/6 rated self as low risk; and 1/6 rated self as very low risk. Only 1/6 rated self as same risk (medium) post group <p>FIRS / FAS / CSFEI:</p> <ul style="list-style-type: none"> • Inconsistent reporting - only pre-post results for some participants

Study Details	Study Aims & Study Selection	Participant Characteristics	Intervention & Outcome Measures	Key Findings
<p>Authors/Year: Taylor et al. 2006</p> <p>Publication: Peer-Review Journal</p> <p>Country: UK</p> <p>Study Type: Case series (no control)</p> <p>Setting: NHS Low-Secure Single-Sex Forensic Unit</p>	<p>Study Aim: To examine and report participant's:</p> <ul style="list-style-type: none"> • Self-reported FS motivations • Responses to a FS intervention • Recidivism at 2-year follow-up <p>Study selection: Participants selected for treatment based on:</p> <ul style="list-style-type: none"> • Convictions for arson 	<p>Specific sub-analysis of female participant data from Taylor et al., (2002)</p> <ul style="list-style-type: none"> • 6 women detained under the MHA (1983) • Mean Age - 34.4 years (SD 9.8; Range 20–48) • Cognitive ability: FSIQ WAIS-R mean for group 74.0 (SD 6.7; Range 64–82) • 2 participants: 'mild' mental retardation (IQ 55–70) • 4 participants: 'borderline intelligence' (IQ 71–85) 	<p>Intervention:</p> <ul style="list-style-type: none"> • 40 sessions of 2-hour group therapy (broad CBT) delivered twice weekly over 6-months • Guided by structured manual devised by authors (Thorne & Taylor 1999) and based on functional analysis paradigm for recidivistic arson <p>Outcome Measures:</p> <p>Self report pre- / post-intervention measures</p> <ul style="list-style-type: none"> • Fire Attitude Scale • Fire Interest Rating • Novaco Anger Scale • Culture-Free Self Esteem Inventory • Beck Depression Inventory – Short Form <p>Staff-rated pre-and post-intervention measures:</p> <ul style="list-style-type: none"> • Goal Attainment Scales / Patient Engagement (GASs) <p>• 2-year follow-up of FS</p>	<p>Results:</p> <ul style="list-style-type: none"> • All participants completed the group and all but one improved to at least satisfactory levels of understanding their FS risks <p>Self-reported outcomes:</p> <p>Fire Attitude / Fire Interest Scales</p> <ul style="list-style-type: none"> • Considerable variability in individual scores on FAS / FIRS <p>Anger / Self Esteem / Depression</p> <ul style="list-style-type: none"> • Group means showed non-significant improvements, however change was in the expected direction <p>Staff-reported outcomes: (GASs)</p> <ul style="list-style-type: none"> • Pre-group, participants accepted FS risk and maintained this following the group • Fewer than 50% reached satisfactory levels on personal responsibility and victim issues • At 2-year follow-up no FS reported for any of the sample

Study Details	Study Aims & Study Selection	Participant Characteristics	Intervention & Outcome Measures	Key Findings
<p>Authors/Year: Taylor et al. 2002</p> <p>Publication: Peer-Review Journal</p> <p>Country: UK</p> <p>Study Type: Case series</p> <p>Setting: NHS Low Secure Single Sex Forensic Unit</p>	<p>Study Aim(s): To report</p> <ul style="list-style-type: none"> • The combined outcomes of three group interventions • Intervention aimed at reducing fire interest and attitudes, anger, self-esteem and depression <p>Study selection: Participants selected for treatment based on having:</p> <ul style="list-style-type: none"> • Mild / Borderline ID • Convictions for arson 	<ul style="list-style-type: none"> • Three treatment groups: one female group (n=6) two male groups (n=4 in each) • 12 adults detained under the MHA (1983) due to offending behaviour • 2 women not detained on criminal sections but had previous convictions for arson • Mean Age: 33.7 years (SD 8.2; Range 20–48) • Cognitive ability: FSIQ WAIS-R mean for group 72.9 (SD 5.8; Range 64–84) • Dual diagnosis: 10 - ID & psychiatric disorder 	<p>Intervention:</p> <ul style="list-style-type: none"> • 40 sessions of 2-hour group therapy (broad CBT) delivered twice weekly over 6-months • Guided by structured manual devised by authors (Thorne & Taylor 1999) and based on functional analysis paradigm for recidivistic arson <p>Outcome Measures:</p> <p>Self-report: pre- / post- intervention measures</p> <ul style="list-style-type: none"> • Fire Attitude Scale (FAS) • Fire Interest Rating (FIRS) • Novaco Anger Scale • Culture-Free Self Esteem Inventory • Beck Depression Inventory – Short Form <p>Staff-reported: (GASs)</p> <ul style="list-style-type: none"> • Goal Attainment Scales scored by group therapist and independent rate 	<p>Results:</p> <p>Self-reported outcomes: Fire Specific Measures</p> <ul style="list-style-type: none"> • There were significant improvements post-treatment on both the FIRS and FAS <p>Anger / Selfsteem / Depression</p> <ul style="list-style-type: none"> • There was a significant pre- to post- treatment reduction in anger and increase in self-esteem • There was no significant improvement found for depression <p>Staff-reported outcomes: (GASs)</p> <ul style="list-style-type: none"> • Mean scores improved post-treatment • 3/6 GASs improved significantly: ‘victim issues’, ‘emotional expression’ and ‘understanding of risks’ associated with firesetting behaviour

Study Details	Study Aims & Study Selection	Participant Characteristics	Intervention & Outcome Measures	Key Findings
<p>Authors/Year: Taylor et al. 2004</p> <p>Publication: Book Chapter</p> <p>Country: UK</p> <p>Study Type: Case series (no control)</p> <p>Setting: NHS Low Secure Male ID Forensic Hospital</p>	<p>Study Aim(s): To examine and report:</p> <ul style="list-style-type: none"> • Participants' life histories and FS • Progress following group intervention for inappropriate fire interest and attitudes, distorted beliefs about responsibility and FS risk factors <p>Study selection:</p> <ul style="list-style-type: none"> • Not specified 	<p>Specific sub-analysis of 4 male participants' data from Taylor et al., (2002)</p> <ul style="list-style-type: none"> • 4 single men with significant FS histories detained under the MHA (1983) <p><i>Participant A</i></p> <ul style="list-style-type: none"> • 40 years old. FSIQ – 71 Diagnosed mild ID & Asperger syndrome <p><i>Participant B</i></p> <ul style="list-style-type: none"> • 37 years old. FSIQ – 68 Diagnosed mild ID & psychopathic disorder. <p><i>Participant C</i></p> <ul style="list-style-type: none"> • 44 years old. FSIQ – 66 Diagnosed mild ID <p><i>Participant D</i></p> <ul style="list-style-type: none"> • 22 years old. FSIQ – 72 Diagnosed mild ID 	<p>Intervention:</p> <ul style="list-style-type: none"> • 31 sessions of 2-hour group therapy (broad CBT) delivered twice weekly over four months • Guided by structured manual devised by authors (Thorne & Taylor 1999) and based on functional analysis paradigm for recidivistic arson and 'what works' literature <p>Outcome Measures: Self-report pre- and post-intervention measures:</p> <ul style="list-style-type: none"> • Fire Attitude Scale • Fire Interest Rating Scale • Novaco Anger Scale • Culture-Free Self Esteem Inventory <p>Staff-rated pre-and post-intervention measures:</p> <ul style="list-style-type: none"> • Goal Attainment Scales (GASs) 	<p>Results:</p> <ul style="list-style-type: none"> • All participants completed the programme <p>Self-report post-group outcomes: Fire Attitude / Fire Interest Scales -</p> <ul style="list-style-type: none"> • No changes in scores for 3/4 participants with regard to the fire specific self report measures <p>Novaco Anger Scale -</p> <ul style="list-style-type: none"> • All four participants improved on anger disposition <p>Culture-Free Self Esteem Inventory</p> <ul style="list-style-type: none"> • Two participants showed an increase in self-esteem <p>Staff-reported outcomes: (GASs)</p> <ul style="list-style-type: none"> • 3/4 participants reached satisfactory or better than expected outcomes on the staff and independent rated GAS's

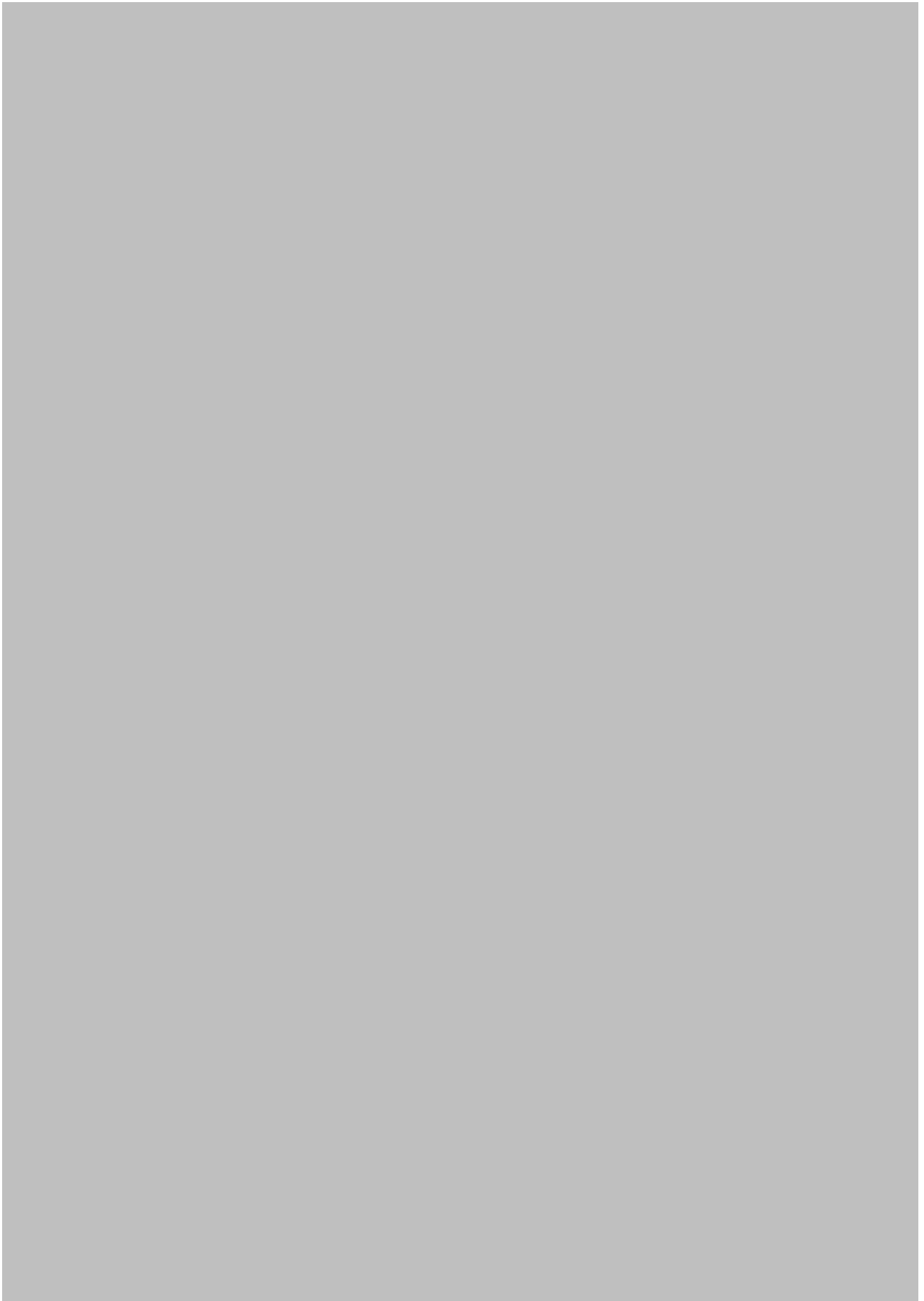
Study Details	Study Aims & Study Selection	Participant Characteristics	Intervention & Outcome Measures	Key Findings
<p>Authors/Year: Clare et al. 1992</p> <p>Publication: Peer-Review Journal</p> <p>Country: UK</p> <p>Study Type: Single Case</p> <p>Setting: NHS Inpatient Service for people with mild learning disabilities</p>	<p>Study Aim:</p> <ul style="list-style-type: none"> • To present a cognitive - behavioural analysis of one participant's firesetting (PR). • To report the outcomes of PR's package of treatment, specifically the effects of facial surgery and covert systematic desensitisation. <p>Study selection:</p> <ul style="list-style-type: none"> • Not specified 	<ul style="list-style-type: none"> • PR - 23 year old man • Cognitive ability: WAIS-R FSIQ 65 (mild ID) WAIS-R VIQ 62 WAIS-R PIQ 65 • Detained under the MHA (1983) • psychopathic disorder' diagnosis • Previous detention in a maximum security hospital (4 ½ years) • Facial disfigurement and inarticulate speech (harelip & cleft palate) 	<p>Assessment / Formulation:</p> <ul style="list-style-type: none"> • Case note review / interview with PR • Focused on cognition / behaviour / interpersonal skills • Based on the 'functional analysis model' for recidivistic arson (Jackson et al. 1987) <p>Intervention(s):</p> <ul style="list-style-type: none"> • Progressive muscle relaxation • Social skills / Assertiveness / Coping strategies • Facial surgery • 'Assisted' covert sensitisation • Graded exposure to matches <p>Outcome Measures:</p> <ul style="list-style-type: none"> • Fire Assessment Interview (Murphy 1990) repeated twice after PR's discharged • Outcomes of facial surgery • 30 months follow-up of FS after discharge at 2-3 month intervals 	<p>Results:</p> <p>Progressive muscle relaxation:</p> <ul style="list-style-type: none"> • Reluctant and refused to take part <p>Social skills/Assertiveness/Coping</p> <ul style="list-style-type: none"> • Improved skills and coping <p>Facial surgery</p> <ul style="list-style-type: none"> • Results indicated operations were successful in changing perceptions of familiar people but not independent raters <p>'Assisted' Covert-Sensitisation:</p> <ul style="list-style-type: none"> • On two times PR was tempted to FS successfully used 'assisted' tape <p>Graded Exposure</p> <ul style="list-style-type: none"> • No anxiety holding matches • No substantial difference on Fire Assessment Interview when repeated following discharge • No evidence of hoax calls or FS during 30 month follow-up

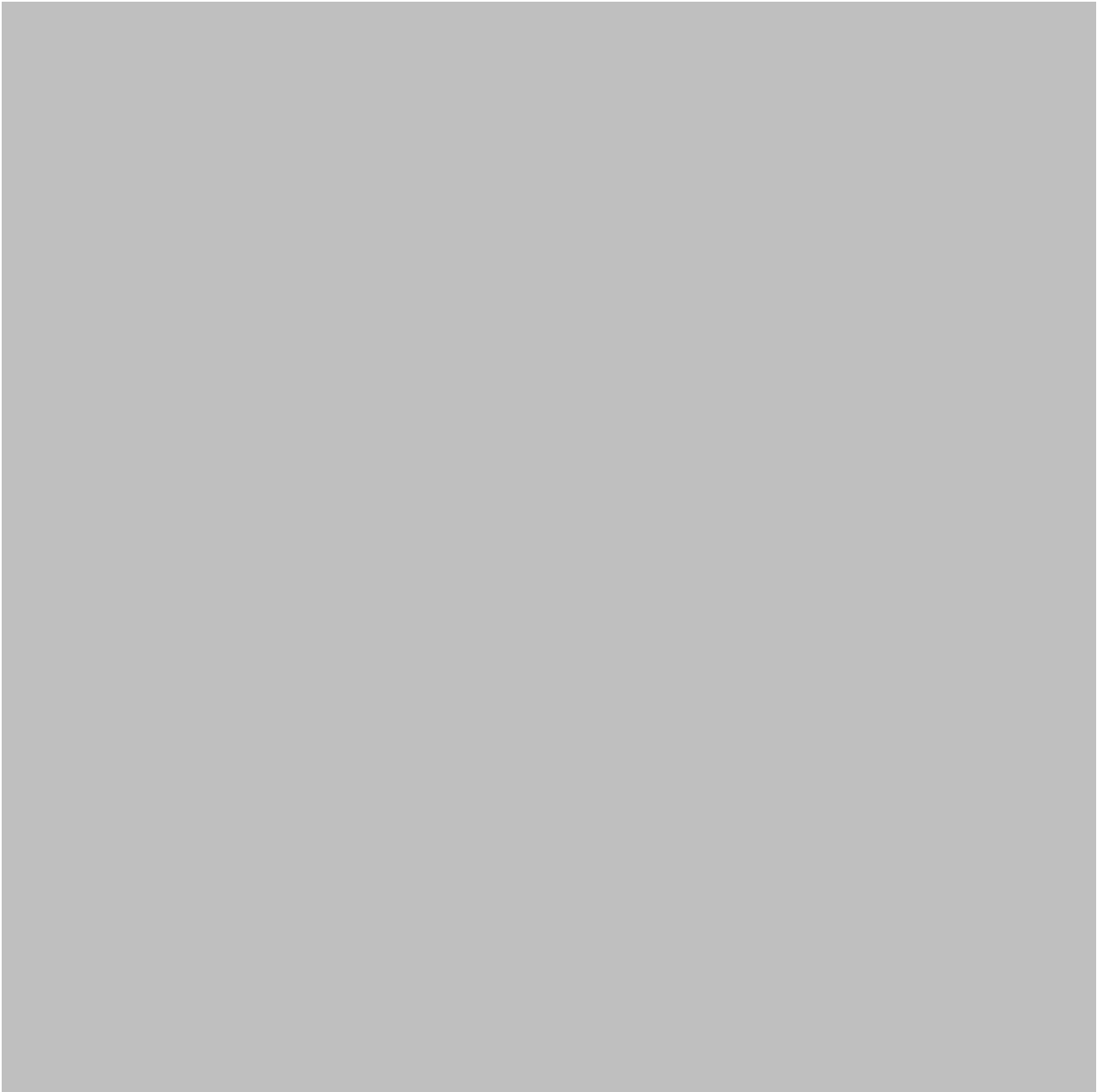
Appendix 8: Risk of Bias rating and corresponding Evidential Quality Grading for each study

Criteria for Level of Evidential Quality 2(-) Case-control or cohort studies with a moderate/high risk of confounding bias, or chance			
Author	Study Design	Score	Methodological Quality Checklist
Devapriam et al. 2007	Cohort Retrospective	8	High Risk of Bias - Weak Methodological Quality
Rasanen et al. 1994	Cohort Retrospective	11	Moderate Risk of Bias - Intermediate Methodological Quality
Dickens et al. 2007	Case Control Retrospective	12	Moderate Risk of Bias - Intermediate Methodological Quality
Kelly et al. 2009	Case Control Retrospective	13	Moderate Risk of Bias - Intermediate Methodological Quality
Rice and Chaplin 1979	Case Control Non-randomised	14	Moderate Risk of Bias - Intermediate Methodological Quality
Lindberg et al. 2005	Cohort Retrospective	14	Moderate Risk of Bias - Intermediate Methodological Quality
Murphy & Clare 1996	Case Control Non-randomised	16	Moderate Risk of Bias - Intermediate Methodological Quality
Criteria for Level of Evidential Quality 3- Case reports and Case series			
Author	Study Design	Score	Methodological Quality Checklist
Clare et al. 1992	Single Case	7	High Risk of Bias - Weak Methodological Quality
Hall et al. 2005	Case Series	7	High Risk of Bias - Weak Methodological Quality
Taylor et al. 2004	Case Series	11	Moderate Risk of Bias - Intermediate Methodological Quality
Taylor et al. 2002	Case Series	12	Moderate Risk of Bias - Intermediate Methodological Quality
Taylor et al. 2006	Case Series	17	Moderate Risk of Bias - Intermediate Methodological Quality

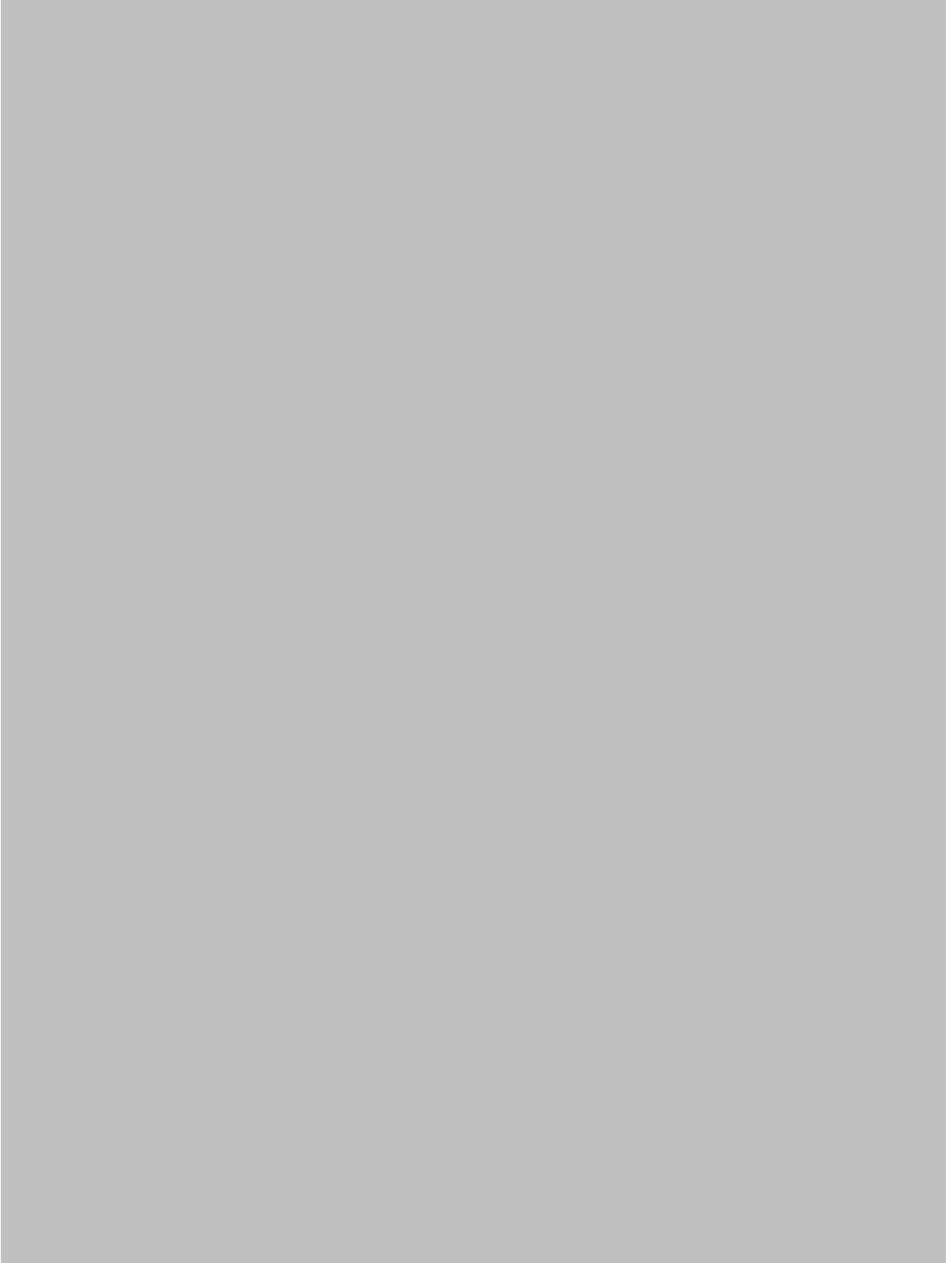






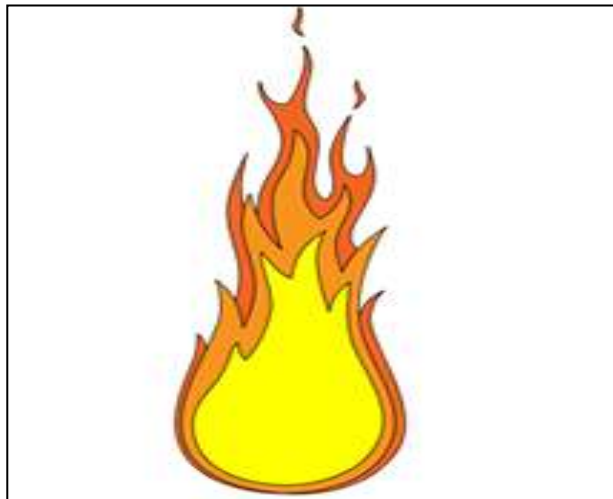


Appendix 11 - Agreement of the role of Sponsorship

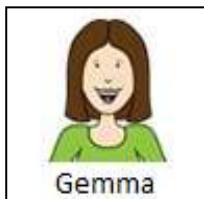


Patient Information

why do people set a fire?



Information



There is a woman called Gemma

Gemma works at Birmingham University

Gemma is training to be a clinical
psychologist



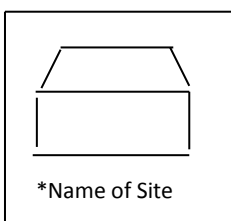
Gemma is doing some work

This is some research

Gemma would like to talk to

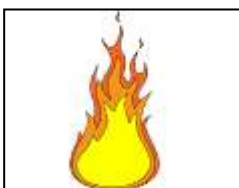


People



Who are living in * hospital

(*Name of participant's research site will be depicted in the image)



Who have set a fire

Why is Gemma doing this



To understand why people set a fire



This is to help make better treatment programmes for people who have set a fire

Working with Gemma



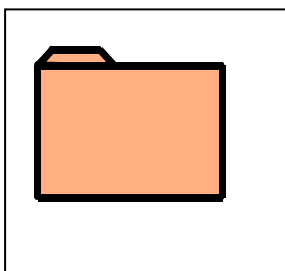
Gemma will come to * to talk to you

(*Name of participant's research site will be cited)



Gemma will ask you why you set a fire

There are no right or wrong answer



It will not change your care plan or your
treatment

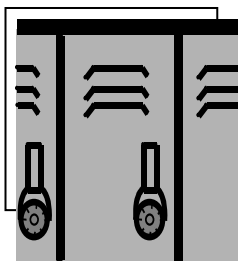
Working with Gemma



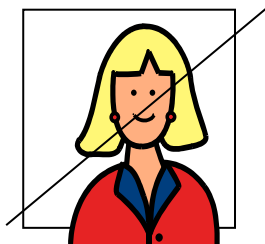
Gemma will record what you say to her
on a tape



This will help Gemma remember what
you have said

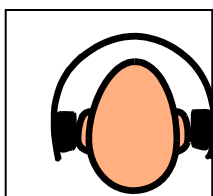


Gemma will keep the tape locked in a
cupboard



Gemma will be the only person to listen
to the tape

Working with Gemma

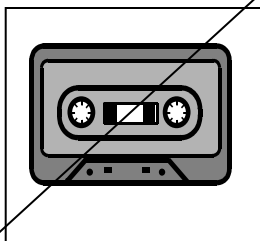


After you have spoken to Gemma

Gemma will listen to the tape again



Gemma will write down everything you
have said



Gemma will not tell anyone your name

When she has listened to the tape

Gemma will destroy it

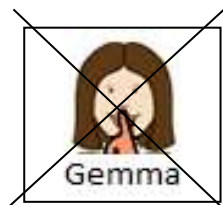
Working with Gemma



If you tell Gemma about an offence that
no one knows about



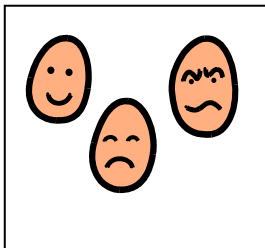
then Gemma must tell social services and
the police



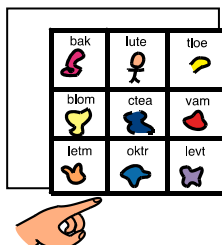
this is the law

Gemma cannot keep this a secret

What if I get upset

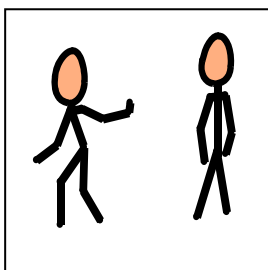


Gemma will have some pictures to help
you say how you are feeling



You can point to the pictures

You can tell Gemma if you want to stop



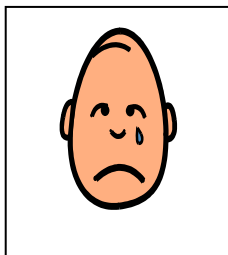
If you feel upset it's ok to leave the room

It's ok to have a break

What if I get upset



If you tell Gemma you want to hurt yourself



Gemma will make sure a member of staff can support you

What if I am unhappy with the interview



You could talk to Gemma

You could talk to a member of staff



You could talk to *

(*Name provided will be the research collaborator for participant's site)

You could talk to psychology staff

Do I have to talk to Gemma

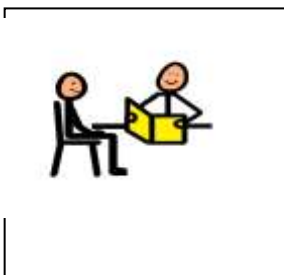
It's up to you. You can decide.



If you say **yes**



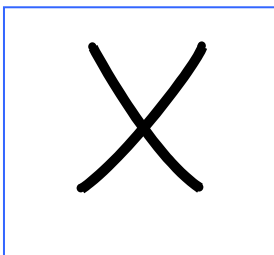
You sign a form to say you will
talk to Gemma



Gemma will make a time to come
and talk to you

Do I have to talk to Gemma

It's up to you. You can decide.



If you say **no**



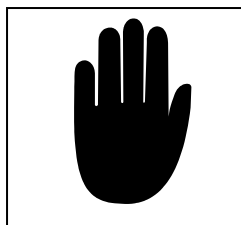
Gemma won't come and talk to you

No one will mind if you say "no"

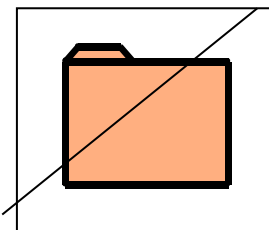
What if I change my mind



It is OK to change your mind



If you say “yes” you can say “no” later



This will not affect your treatment plan.

You won't get into trouble

It's up to you. It's your decision.

Who can I talk to about my decision



You could talk to Gemma

You could talk to a member of staff

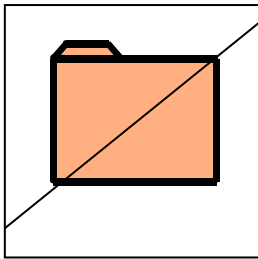


You could talk to *

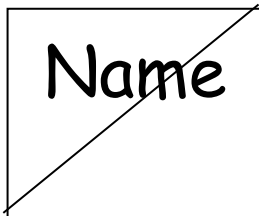
(*Name provided will be the research collaborator for participant's site)

You could talk to psychology staff

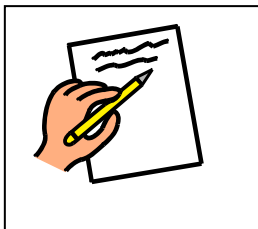
What next



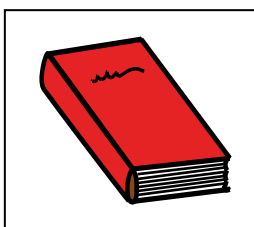
What you say to Gemma will not change
your care plan



Gemma will not use your name
no one will know you have taken part



Gemma will write down what she has
found out



This may get written in a book

What next



You can keep this booklet in case you want to read it again



A booklet will be in your file
you can ask to see it



do you have any questions about what I
have read to you?

**Now I'm going to ask you some questions just to
see if I have explained this OK**

Contact Details



If you want to speak to Gemma about this work



you can ask a member of staff to phone her



If you want to speak to * about this work
(*Name provided will be the research collaborator for participant's site)



you can ask a member of staff to phone her

Appendix 13: Assessment of capacity to consent

1. Do you have to take part in this study?

Answer: NO

2. What will Gemma talk to you about?

Answer: MY FIRESETTING, WHY I SET A FIRE, ETC

3. Will Gemma use your name in her report?

Answer: NO

4. Can you change your mind later?

Answer: YES

If the above questions are answered correctly:

5. Will you let Gemma talk to you?

Answer:

IF YES, INFORM PARTICIPANT THEIR DETAILS WILL BE PASSED TO GEMMA
GEMMA WILL ARRANGE A TIME TO MEET WITH THE PERSON

Appendix 14: Written consent form

UNIVERSITY OF
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Consent Form

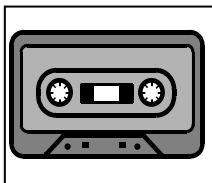
why do people set a fire?



Put a tick in the box if you agree



Gemma can talk to me about
my fire setting

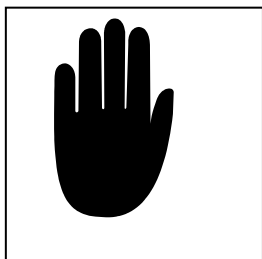
☐

Gemma can record what I say
to her on a tape

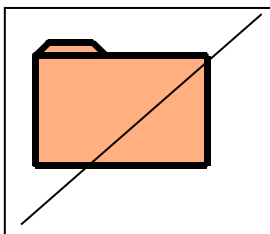
☐

Gemma can read my file

☐



I can say “no” if I don’t want to talk
to Gemma

☐

I can say “no”

☐

It won’t change my care plan

I can say “no”

☐

I won’t get in trouble



Please sign your name here

Name:

Date: